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## American Medical Association

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VOLUME 85, No. 10 | 535 North Dearborn Street, CHICAGO, ILL. | SEPTEMBER 5, 1925

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. 85, No. 10 CHICAGO, ILLINOIS SEPTEMBER 5, 1925


## UROLOGIC PROBLEMS OF THE GENERAL PRACTITIONER, SURGEON AND INTERNIST *


ROBERT V. DAY, M.D.

LOS ANGELES


### KIDNEY FUNCTION

One not infrequently encounters frank complaint by the surgeon and others that the phenolsulphonephthalein test has, in their experience, proved unreliable and misleading. Almost always the error has been due to inaccurate collection of the urine to be tested for its dye content. Unquestionably, the most valuable and reliable single method of determining kidney function is by the employment of phenolsulphonephthalein. If the output is definitely below normal, it should be supplemented by data on the nonprotein nitrogen content of the blood—either blood urea or total nonprotein nitrogen—and often creatinin. If the appearance time and percentage output of phenolsulphonephthalein are normal, there will be no increase in the total nonprotein nitrogen in the blood. On the other hand, the blood chemistry findings may be quite within normal limits and yet the phenolsulphonephthalein output be markedly lowered, usually for the reason that the protein intake is small, and with hypertension and polyuria the nitrogen waste is amply taken care of. If a reliable laboratory report shows a normal phenolsulphonephthalein output, it may be taken as one of the most nearly infallible tests of any with which the practitioner deals. If markedly below normal, however, the test should be repeated to eliminate error due to faulty collection or more rarely because of reflex inhibition from pain, shock or psychic influence. Usually two half hour periods for collection are preferable to two one hour periods in that it ordinarily supplies better information besides saving time. Normally, the percentage output following appearance is greater during the first fifteen minutes than the second fifteen minutes, and greater during the first thirty minutes than the second thirty minutes. Supposing, then, using the almost traditional one hour periods, a prostatic patient had an output of from 40 to 45 per cent. during the first hour. On the face of it, this would appear fairly good; but if half or nearly half of this output occurred during the second thirty minutes of the first hour, one would know that the kidneys were sluggish and there was still a considerable operative risk from the standpoint of kidney function. However, if the percentage output is from 40 to 65 per cent. during the first half hour following the appearance time after intravenous injection (depending on the character of the case), one may dispense with further consideration of total function.

To insure accuracy, a catheter is inserted and adjusted so that the eye is well within the bladder and the urine finally comes drop by drop into a solution of sodium bicarbonate and not the dangerous and caustic sodium hydroxid. In this way the appearance time of the dye does not depend on the ability of the patient to urinate every five minutes or so, which usually is an impossible accomplishment. At the end of one-half hour following the appearance time, the bladder should be rinsed with sterile or distilled water, a glass piston syringe being used, and these rinsings should be added to the sample to be sent to the laboratory. If the sample contains gross blood, it must be boiled and filtered before alkalization. Frequently I have had the experience of checking patients with perfectly normal kidney function when previous reports had indicated a markedly lowered phenolsulphonephthalein output, the reason being that the total quantity of urine never got to the laboratory—usually because the patient failed to empty the bladder when asked to void at a designated moment. This is likely to happen to a somewhat embarrassed or perturbed patient, or to one to whom the necessity of getting out the last few cubic centimeters (often concentrated in its dye content) is not explained. Another source of error results if residual urine exists, whether from prostatism, organic spinal cord disease, or other reason. The amount of water ingested or quantity of urine excreted during a definite period of time bears no relation to the percentage output of dye during this given period of time; but a polyuria produced by filling up on water does lessen the error if some of the sample happens not to be collected or is spilled. Therefore, if the dye output by voiding methods is below normal, it should always be repeated with a catheter before final judgment is passed, unless sustained by reliable blood chemistry findings. The authors of textbooks on clinical diagnosis should elaborate on these sources of error if they are not to mislead and confuse the practitioner who makes only occasional use of the phenolsulphonephthalein test.

### HEMATURIA AND PYURIA

Hematuria means inflammatory or other organic disease somewhere in the urogenital tract. Examination should be made in order to disclose the precise source or sources of the blood (or pus), and definitely the pathologic condition behind it. Examination for the source of hematuria should be made immediately, while the attack is on; for if the bleeding ceases before examination is made, it is often impossible to discover the source until another attack ensues, which may not be for a long time, for the reason that the bleeding may be

* Chairman's address, read before the Section on Urology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

due to incipient disease which leaves so little residual pathologic change that nothing can be told by clinical methods or technical procedures until the disease has progressed further. The causes and sources of the blood are so many that an adequate cysto-urethroscopic examination, generally speaking, should never be omitted. Any other method is largely guesswork. (The principal exception to this rule in practice is when blood in the urine obviously is a terminal hematuria from acute gonorrheal prostatitis or posterior urethritis.) An adequate examination may prove very brief and simple; or it may necessitate long systematic and thorough examination, including ureteral catheterization and complete kidney study with bilateral pyelography. The same rule applies to pyuria when the source of the pus is not obvious. So many times a patient with infection in the upper urinary tract is treated expectantly for several weeks until the constitutional and urinary symptoms have disappeared and the urine has cleared. This often makes an exact diagnosis very difficult unless there is some residual pathologic condition discovered, and if a urologic examination is intended, it should be made during an attack unless there is definitely a contraindication. In many cases the attack will be cut short by the drainage and dilation incidental to the examination.

### RENAL TUBERCULOSIS

In renal tuberculosis, in nearly every instance, there are practically no urinary symptoms until the tuberculous process has extended to the kidney pelvis. Ordinarily, there is a temperature of perhaps 99.2 F., but rarely any pain over the kidney, except in later stages when the ureter has become markedly tuberculous. Polyuria, especially at night, is common, but in this stage, when confined to the kidney parenchyma, there is usually nothing to cause even a suspicion of renal tuberculosis. When the process extends to or breaks into the kidney pelvis, tuberculous pyelitis sets in, and vesical tuberculosis promptly ensues with an associated tuberculous ureteritis. The clinical picture then becomes that of cystitis. Any patient between the ages of 15 and 40, with pyuria of an apparently causeless nature over a period of ten or twelve weeks, who has had frequency, slight nycturia—perhaps dysuria—with acid urine that is negative for micro-organisms by the ordinary staining methods, should be suspected of having renal tuberculosis.

If one examination for tubercle bacilli is negative, it should be repeated until one either finds tubercle bacilli or is satisfied that they are not present. The average case of renal tuberculosis is diagnosed only after the patient has had bladder irrigations and other worthless and often harmful therapy over a period of from one to two years, whereas tuberculosis should have been suspected and diagnosed much earlier. The earlier the diagnosis, the quicker, surer, and more permanent the results. The national bank embezzler sooner or later —usually sooner—is apprehended in almost every instance; but he has more chances of making a clean and permanent getaway than a patient with renal tuberculosis has of effecting a permanent cure from nonoperative therapy. If the patient's urine shows neither albumin nor pus, it is certain he has no renal tuberculosis and it is then useless to search for tubercle bacilli; for all cases of tuberculous pyelitis, cystitis or ureteritis show pus, and certainly if there is no albuminuria there can be no tuberculous area in the cortex or medulla. If, on the other hand, albumin is present but no pus, tuberculosis in the parenchyma cannot be excluded absolutely. One cannot diagnose renal tuberculosis until it has broken through or extended into the pelvis.

In genital tuberculosis, epididymectomy is ordinarily the only surgical measure indicated or justified. Occasionally Young's radical operation—that of removal of the epididymis, vas deferens, seminal vesicle, and perhaps a portion of the prostate, is necessary, especially when caseation has occurred in the seminal vesicles and prostate.

### RENAL MALADIES OF THE CLINICALLY OBSCURE ABDOMINAL TYPE

Kidney infections, ureteral stricture, renal calculus, and hydronephrosis often give a picture with a remarkable clinical resemblance to appendicitis or cholecystitis, and occasionally to mucous colitis or even intestinal obstruction. If the urine contains bacteria, pus or blood, urologic examination should not be neglected except in emergencies or in those too ill to withstand cystoscopy. Simple roentgen-ray examination will often give the clue. Cultures of urine are notoriously misleading by reason of probable contamination or because of saprophytes from the anterior urethra. Cultures are useful only to identify and determine the type of organisms underlying urinary infection, but not to determine positively the precise source, or organ, involved. Smears made from the centrifugalized sediment of freshly catheterized urine, when stained by the Gram method, are far more useful and reliable and ordinarily give a better quantitative answer.

Obscure conditions, especially those with otherwise unexplained gastro-intestinal or abdominal symptoms, should at least be considered, if not actually examined, urologically. Not infrequently a frank mucous colitis, with obscure etiology and illusory symptoms not definitely pointing to renal disease until a very thorough urologic examination has been made, promptly clears up after nephrectomy for renal disease for the reason that mucous colitis is frequently not a primary condition, but is secondary to other pathologic conditions somewhere between the diaphragm and the pubis. Roentgenography of the entire urinary tract (including the prostate in the male and as low as the pubis in the female) should never be neglected in conditions giving rise to any suspicion of disease in the upper urinary tract. In the long run, a roentgen-ray examination is the patient's best investment and cheapest insurance, being a simple procedure devoid of pain or distress, and frequently cuts short the distress of other examinations. In doubtful cases, when a patient is sent to the roentgenologist or gastro-enterologist for a gastro-intestinal roentgen-ray study, films should be made before the ingestion of barium meals or enemas; otherwise, unsuspected renal and ureteral calculi, if present, often are overshadowed by the barium and missed if this precaution is neglected, only to be discovered weeks or months later, to the chagrin of the clinician and the detriment of the patient. However, in hyperacute conditions it is occasionally better to operate needlessly and mistakenly for acute appendicitis than to waste much time in prolonged examinations in conditions in which every hour counts. Conversely, a diseased kidney can usually wait.

Perinephritic abscess can usually be diagnosed by clinical data plus the aid of the roentgen ray if the urologic findings are negative. In suspected perinephritic abscess, it is better to explore through a small incision over the lumbar fascia and obtain no pus than to delay several weeks until a pint or more of pus has formed with the resultant dissection of the parietal peri-

toneum and inevitable widespread sclerosis. A knife—not a needle—should be used for exploring; if pus is found, incision will surely be necessary and if the needle fails to disclose pus, it is no conclusive evidence of its absence. Hence, incision is inevitable.

### CATHETER CYSTITIS—A MISNOMER

Usually, the nurse or intern is blamed for the occurrence of urinary infection following surgical operations when, as a matter of fact, the surgeon in charge should be held responsible. So often, one is told that after a few catheterizations the patient began to void and the use of the catheter was discontinued; still the fever and other symptoms continued and the urine was loaded with pus. The patient was in effect simply voiding the overflow with a big residual left behind. Infection follows catheterization of a healthy bladder only when that bladder is not emptied soon enough, often enough, and long enough. The greatest factor in the production of any infection of the upper urinary tract (including the bladder) is distention or back pressure—frequently on top of a latent infection. Distention brings about a "prepared soil," [1] following which, some degree

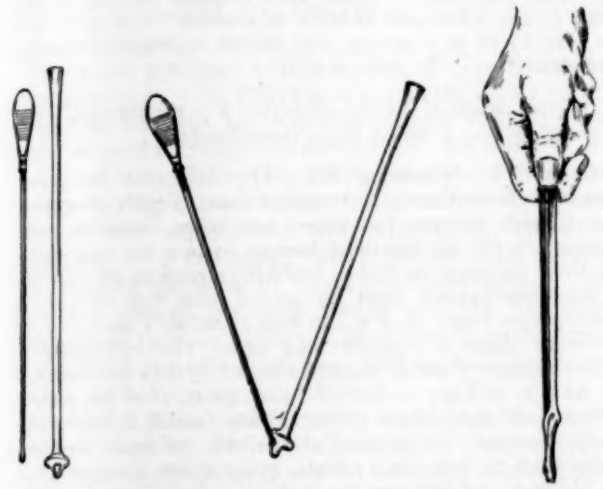

Fig. 1.—Pezzer and uterine sound and manner of diminishing the caliber of the button end.

of infection is pretty sure to occur notwithstanding the most rigid aseptic catheter technic. Conversely, the intentional introduction of pyogenic organisms into the bladder does not produce infection, even in the presence of considerable trauma, if there is present no pathologic condition—active or latent—in the urinary tract, and there is no distention or residual urine. Hugh Cabot [2] discusses this problem at some length and, on both experimental and clinical data by himself and others, believes that postoperatively a patient should not be allowed to accumulate more than 10 ounces (300 c.c.) in the bladder. He instructs his nursing staff to catheterize the patient at any time after the twelfth postoperative hour if their observations lead them to believe that this amount has been reached, their conclusion being based on the patient's own sensations. Curtis [3] believes that distress should be the signal for catheterization. It occasionally happens, however, that a considerably distended bladder gives little or no distress, or any distress felt is referred to other organs or regions. Better twice as many catheterizations as necessary than 20 per cent. too few. If a patient after operation has persistent difficulty in urination or fails to empty the bladder, then an indwelling catheter should be used.

In the female, a 22 Pezzer is inserted after the following method (Fig. 1): A uterine sound with an

Fig. 2.—Pezzer draining into urinal between the thighs in recumbent position.

especially large and rounded point (Fig. 1 *a*) is inserted through the eye of a Pezzer catheter on into the hollow end (Fig. 1 *b*) and the rubber stretched as seen in Figure 1 *c*, the right thumb and forefinger holding it thus alongside the sound. This for the moment straightens out the button end and allows it to pass more easily through the urethra into the bladder. The operator, if right-handed, should stand on the right side of the bed and, after generous use of a water soluble lubricating jelly, his thumb and fingers of the left hand should separate the labia, exposing the vestibule with the urethra in the center, and the catheter pushed on into the bladder. The thumb and fingers of the right hand are then relaxed, allowing the end of the catheter to resume its button shape, after which the sound is carefully dislodged and removed. One now injects the syringe full of water or other solution into the bladder and, if there is a good return flow, the patency of the catheter is established. Slight traction should be made on the catheter until one's tactile sense shows that the button end has impinged on the bladder neck. It is then pushed into the bladder an additional half inch and a good sized

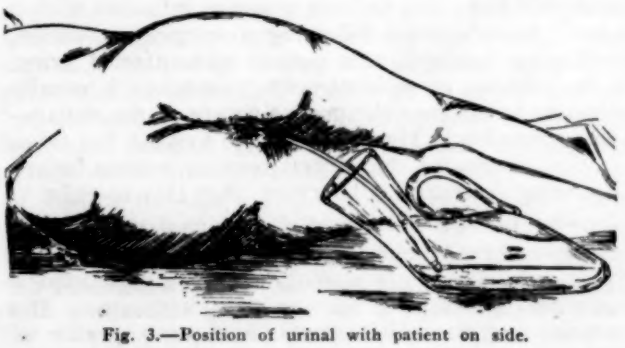

Fig. 3.—Position of urinal with patient on side.

glass connecting tube, with the two ends of the same caliber, inserted in the outer end to weight it down in a male urinal (Figs. 2 and 3). One should cut off the catheter before inserting the glass connecting tube, so that excessive length will not cause it to bend or kink. The catheter need not be strapped or tied in and will be self-retaining provided it is not connected up to a heavy rubber tube emptying into a bottle alongside the bed. If a female urinal is used, it is much more easily upset.

1. Doctrine of the Prepared Soil, Canad. M. A. J., September, 1921, quoted by Hugh Cabot.
2. Cabot, Hugh, and Loomis, J. L.: J. Mich. M. S. **24**: 32 (Jan.) 1925.
3. Curtis, A. H.: Management of the Female Urinary Bladder After Operation and During Pregnancy, J. A. M. A. **80**: 1126 (April 21) 1923.

Even urine in the bed is preferable to bladder stasis or distention.

In the male, a soft rubber or coudé catheter answers best. (A Pezzer catheter should never be forced through the male urethra because of the trauma it produces.)

When so-called urethral fever or a chill follows urethral instrumentation, four times out of five it means active or latent pyelonephritis—very often calculus; at most other times latent infection in the seminal vesicles or prostate. Therefore, if catheterization is harmless in the absence of a urinary pathologic condition, but not infrequently gives severe reactions if disease is present in the urologic tract, withholding the use of a catheter through fear of infection parallels the ostrich with its head buried in the sand. If there is a pathologic condition—latent or active—present, one should know it in order better to combat it.

### LATENT PROSTATISM IN RELATION TO GENERAL SURGERY

A surgeon about to perform a serious operation on any patient should know that his patient is physically sound or, if not, know the nature and extent of all abnormalities present. In any male patient of the prostatic age (50 years old or more) particularly if the operation be for hernia or hemorrhoids acquired in the last few years, the catheter should be employed to ascertain whether or not there is residual urine. If the residual urine is considerable, kidney functional tests and preliminary drainage by an indwelling catheter should precede any elective operation for the same length of time one would take to prepare the same patient for prostatectomy. In the event of an emergency operation, an indwelling catheter or regular intermittent catheterization should be employed.

Prostatism, miscalled prostatic hypertrophy, is an adenomatous or sclerotic condition of the prostate, causing obstruction in some degree to the outflow of urine through the urethra. Hypertrophy of the lateral lobes or definite carcinoma may readily be felt by a finger in the rectum; but this procedure cannot be expected to disclose any evidence of middle lobe hypertrophy alone or of contracture or bar. The urine may be quite normal. A patient with clear urine is just as likely—sometimes more so—to have a severe infection with a stormy convalescence following a surgical operation, (perhaps a fatality), as a patient with infected urine. In the presence of residual urine, cystoscopy is usually necessary to discover the precise nature of the obstruction. One should always be on the lookout for tabes or other disease of the central nervous system before diagnosing prostatism. However, they may co-exist.

Detwiler Building.

**Personality, Magic and Medicine.**—What distinguishes the doctor from the healer is his undeviating rationalism. His recognition of the mental element in disease, whether as cause, as a symptom or as a cure, is deficient. He has a horror of introducing mystery into his treatment, even though his patients have not yet emerged from the darkness of superstition, and his practice would probably increase if they believed that the letters M.B. after his name indicated that he was a Bachelor of Magic. And he could always assure for himself and his family a respectable livelihood among the credulous, who form the majority of the population, if we could honestly assert that the letters Ch.B. were conferred upon him because he was a Bachelor of Charlatanism.—Robertson, G. M.: *Lancet* **2**:213 (Aug. 1) 1925.

## DISTURBANCES OF VISION DUE TO DIGITALIS

### REVIEW OF THE LITERATURE AND REPORT OF CASES *

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The first effective use of digitalis in medicine was made by William Withering and described by him in 1785. A study of the case histories that he outlines in his treatise shows that he was accustomed to give the drug in large doses and was familiar with its toxic effects. He begins his chapter on the therapeutic use of digitalis with this statement:

> The foxglove, when given in very large and quickly repeated doses, occasions sickness, vomiting, purging, giddiness, confused vision, objects appearing green or yellow; increased secretion of urine, with frequent motions to part with it, and sometimes inability to retain it; slow pulse, even as slow as 35 in a minute, cold sweats, convulsions, syncope, and death.[1]

Three cases of visual disorder are mentioned. The following one is most fully described:

> Case CVI. November 2nd. Mr. S—— of B—— h—, Aet. 61. Hydrothorax and swelled legs. Squills were given for a week in very full doses, and other modes of relief attempted; but his breathing became so bad, his countenance so livid, his pulse so feeble, and his extremities so cold that I was apprehensive upon my second visit that he had not twenty-four hours to live. In this situation I gave him the Infusum Digitalis stronger than usual, viz., two drams to eight ounces. Finding himself relieved by this he continued to take it, contrary to the directions given, after the diuretic effects had disappeared. The sickness which followed was truly alarming: it continued at intervals for many days, his pulse sunk to forty in a minute, every object appeared green to his eyes, and between the exertions of reaching he lay in a state approaching to syncope. The strongest cordials, volatiles, and repeated blisters barely supported him. At length, however, he did begin to emerge out of the extreme danger into which his folly had plunged him; and by generous living and tonics, in about two months he came to enjoy a perfect state of health.

It will be seen from this description that visual disorders were early recognized as resulting from excessive dosage of digitalis. That these effects are recognized today in England and America by many of the medical profession seems doubtful. The report of a case of yellow vision from digitalis intoxication made by Dr. Henry Jackson [2] at a meeting of the Suffolk District Medical Society of Boston, in December, 1924, prompted a survey of the literature. Personal observation of similar cases leads us to publish this review.

We have been unable to find any recent references in English indicating original work on the subject of visual disorders from digitalis, and such descriptions as were found were mainly confined to pharmacologic

* From the Cardiac Clinic of the Massachusetts General Hospital.
* Read before the Section on Pharmacology and Therapeutics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Withering, William: An Account of the Foxglove and Some of Its Medical Uses, Birmingham, 1785, p. 184.
2. Jackson, Henry, Jr.: A Case of Yellow Vision Associated with Digitalis Poisoning, Boston M. & S. J. **192**: 890 (May 7) 1925.

and toxicologic literature.[3] The reason for the latter condition is that disturbances of vision have been reported mainly in frank poisoning of accidental [4] or suicidal [5] origin or in cases of experiments conducted by investigators on themselves.[6] The occurrence of such toxic phenomena incident on the therapeutic use of digitalis has been reported much more rarely.[7] Personal communications from more than a dozen leading pharmacologists and clinicians interested in the actions of digitalis showed that these disturbances are very infrequently recognized in this country. Several ophthalmologists have reported no experience with them, and the American Encyclopedia of Ophthalmology states that amblyopia from digitalis is a rare occurrence. De Schweinitz [8] quotes only one case (Jeanton, 1885).

In the French and German literature, however, visual disorders from digitalis have been well described, especially by Purkinje,[6] Tardieu,[9] Koppe,[6] Martin,[10] Boucheron,[11] Focke,[12] Lewin and Guillery,[13] Kobert [14] and Uhthoff.[15] The types of visual disturbance have been diverse, but their character seems to be related to the individual susceptibility of the victim and the dosage of the drug. The most striking effect seems to be in color sensation. Withering noted the occurrence of green and yellow vision in toxic cases, and it has since been observed many times.

To persons poisoned to this extent, all objects appear green or yellow. The effect is often increased by going out into the sunlight, but some have stated that artificial light also produces the colored vision.[16] In one case of chloropsia from digalen, the green color returned in the evening during convalescence.[16] In a few instances, patients have complained that everything appeared illuminated by a red light,[4] while to others all objects and especially the flame of a coal fire looked blue.[17] To Brunton's patient his own hands and the faces of other people appeared blue.[6] Cases have been reported in which the surroundings were said to have appeared covered with snow or hoar frost.[18]

Dimness of vision, with inability to distinguish objects or people, inability to focus the eyes, and impossibility on the part of the subject to read even the largest print have been repeatedly mentioned. In one case there was said to be an increase in the size of letters, and they were all askew.[10] Another common complaint has been veiled, cloudy or "cottony" vision, both with and without the color disturbances. One instance is given by Lewin [19] in which the patient complained that there was hair constantly before his eyes.

Many varieties of subjective light sensation and scotomas are discussed. These range from flickering before the eyes (said by some to be a very early sign of digitalis intoxication) to flashes of light, rapidly moving sparks, spots of various colors surrounded by coronas, and complicated banded or notched figures.

Martin [10] reports a case in which there was oscillation of all objects in the visual field, letters took on a seesaw motion, and the surroundings were inclined 45 degrees to the left, causing the windows to appear lozenge shaped. This patient also had diminution of visual acuity for near and far objects and chloropsia.

Diplopia is described by Tardieu and others; while burning and pain in the eyes, reddening of the conjunctiva, and even slight pustulation with pericorneal injection have been reported.[20] Blindness, both temporary (up to three days) and permanent, has resulted from severe poisoning,[13] but the report of optic atrophy by Hauber [21] is of questionable accuracy.

Among the objective findings in cases of visual aberration are to be noted mild conjunctivitis, pupillary variation (most commonly dilatation, though constriction and inequality are said to occur), exophthalmos, and possible nystagmus.[22]

The mechanism of these disturbances of sight is not clear. Ophthalmoscopic examinations have been uniformly reported negative. Homolle and Quevenne reported an opalescence of the crystalline lens which Brunton could not corroborate. Lewin and Guillery have given the best survey of the subject. Many of the symptoms, they believe, could be due to functional cerebral alteration, especially as they are frequently associated with headache and functional disturbance of the retina and optic nerve. Introduction of digitalin into the conjunctival sac, they state, has resulted in contraction of the pupil or irritation of conjunctiva and cornea with colored vision said to be due possibly to action on the tensor choroidae and dilatation of the vessels of the iris.

Disturbance of color vision from the internal use of digitalis results without the occurrence of corneal icterus. Digitoxin alone has caused xanthopsia,[23] and digalen,[16] following tincture of digitalis, resulted in green vision. Homolle [24] conducted an experiment on himself with certain fractional elements from digitalis leaf and suffered from marked visual disturbance, cloudy vision, inability to fix his eyes, and a sensation of looking through a yellow fog. He concluded that digitalis contained essentially two active principles: one, digitalin, acting electively on the heart and uropoietic system; and the other, fatty matter (digitoleic acid) with an energetic emetic action, to which he attributed the effect on the visual organs. However, in patients poisoned by digitalin, vomiting was always preceded by visual disorder. It would seem that the agents responsible for the visual effects are as yet unidentified accurately.

3. Witthaus, R. A., and Becker, T. C.: Medical Jurisprudence and Forensic Medicine and Toxicology, New York **4**: 1085, 1911. Blyth, A. W., and Blyth, M. W.: Poisons, Their Effects and Detection, London, 1906, p. 436. Cushny, A. R.: The Action and Uses in Medicine of Digitalis and Its Allies, London, 1925, p. 125.

4. Heydner, F.: Ueber Digalenvergiftung, München. med. Wchnschr. **58**: 1511, 1911. Köhnhorn, C.: Digitalisvergiftung, Vrtljschr. f. gerichtl. Med. **24**: 278, 1876. Edward, J.: A Case of Poisoning from the Root of Digitalis Purpurea, Lancet **2**: 31, 1849.

5. Jeanton, P.: Tentative de suicide, empoisonnement avec 90 grammes de teinture de digitale: guérison en huit jours, Gaz. d. hôp. **58**: 441, 1885.

6. Koppe, R.: Untersuchungen über die pharmakologischen Wirkungen des Digitoxins, Digitalins, und Digitaleins, Arch. f. exper. Path. u. Pharmakol. **3**: 289, 1874. Purkinje, J. E.: Beobachtungen und Versuche zur Physiologie der Sinne, Berlin **2**: 124, 1825. Homolle, A. E., and Homolle, S. G.: La digitaline au point de vue chimique, toxicologique et médicolégal, Paris, 1872. Brunton, T. L.: On Digitalis: With Some Observations on the Urine, London, 1868.

7. Stewart, J.: Digitalis, Canada M. & S. J., 1885, p. 273.

8. De Schweinitz, G. E.: The Toxic Amblyopias, Philadelphia, 1896.

9. Tardieu, A. A.: Etude médico-légale et clinique sur l'empoisonnement, Paris, 1875, p. 750.

10. Martin, A.: Empoisonnement par une infusion de 40 grammes de feuille de digitalis; guérison, Union méd. **133**: 491, 1883.

11. Boucheron: Troubles visuels dans un cas d'intoxication par la digitale, Union méd. **133**: 494, 1883.

12. Focke, C.: Ueber Digitalis Vergiftung, Aerztl. Sachverst-Ztg. Berlin **9**: 312, 1903.

13. Lewin, L., and Guillery, H.: Die Wirkungen von Arzneimitteln und Giften auf das Auge, Berlin **2**: 870, 1913.

14. Kobert, R.: Lehrbuch der Intoxikationen, Stuttgart **2**: 1201, 1906.

15. Uhthoff, W.: Die Augenstörungen bei Vergiftungen, Graefe-Saemisch Handbuch, Ed. 2, **11**: 123, 1907.

16. Montandon, A.: Effect cumulatif de la digalène, Rev. méd. de la Suisse rom. **30**: 378, 1910, quoted in Seifert, O.: Die Nebenwirkungen der modernen Arzneimittel, Würzburg, 1923.

17. Taylor, A. S.: On Poisons in Relation to Medical Jurisprudence and Medicine, Philadelphia, 1848, p. 599.

18. Martin (Footnote 10). Lewin and Guillery (Footnote 13). Montandon (Footnote 16).

19. Lewin, L.: Die Nebenwirkungen der Arzneimittel, Berlin, 1899, p. 565.

20. Purkinje (Footnote 6).

21. Hauber: Ein Fall von Digitalisvergiftung, München. med. Wchnschr. **37**: 727, 1890.

22. Galentine, C. B.: Boston M. & S. J. **49**: 205, 1854.

23. Koppe (Footnote 6).

24. Homolle (Footnote 6).

The dose of digitalis necessary to produce disturbances of vision is probably smaller than is customarily assumed, if one includes the very earliest sensations that can be obtained by questioning the patient. The earliest of these is probably flickering before the eyes (*Augenflimmern*). Focke [12] calls particular attention to visual disturbance as a symptom of mild intoxication or as an early sign of more severe poisoning, and says that others have noted this, such as Jörg,[25] Schroen, Koppe,[23] Lauder Brunton,[26] Homolle and Quevenne. According to him it is a symptom of equal importance with gastritis and bradycardia. Witthaus [3] states that visual disturbances begin early in cases of poisoning.

Schulz [27] attempted to show that very small doses, 10 drops of the tincture of digitalis, could produce change in the red and green light sensation, but Bohnenberger [28] has since disproved this. Purkinje noted a weak flickering in one eye after 6 grains (0.4 gm.) of digitalis. Müller,[29] in an investigation on the therapeutic action of digalen in eighteen cases, found minor toxic symptoms in eleven, and in four of these there was flickering before the eyes after doses of 11 c.c. in three days to 31.5 c.c. in fourteen days.

In a case quoted by Lewin,[19] the patient had yellow vision after taking digitalis in "normal doses." Duroziez's [30] patient had green vision following a daily dose of 0.2 gm. of digitalis leaf for forty-three days. Montandon's [16] patient had green vision after about 60 c.c. of digalen in a month. (It should be noted that this patient had a pulse rate down to 24 and was extremely weak; but there was no vomiting, nausea, colic or diarrhea.) Taylor [17] notes that a few grains of the powdered leaves have been known to produce giddiness, languor, dimness of sight and other nervous symptoms; while Christison [31] says that "two or three grains of good foxglove" may cause the appearance of sparks before the eyes, dimness of vision and a feeling of pressure on the eyeballs.

The dosage in cases of severe poisoning with more marked visual disorder is necessarily inaccurate, because of the vomiting, and we are more concerned with the effects from therapeutic doses.

## REPORT OF CASES

We have recently been paying particular attention to visual disorders occurring in patients receiving digitalis and have observed seven cases in which marked abnormalities have resulted. These cases are reported in this communication. Several other cases in which there were minor visual disturbances have also been seen.

CASE 1.—L. G., a man, aged 48, Canadian, a carpenter, was admitted to the hospital from the outpatient department, Nov. 22, 1924, complaining of shortness of breath. He had been given by his local physician some greenish-gray pills to be taken two at a time four times a day. (It was decided on further evidence that these were pills of digitalis leaf, and an estimate showed that he had received from 4.3 to 6.4 gm. in the twelve days before admission to the ward.) He complained of no gastro-intestinal disorder at entrance, but had been nauseated and vomited once a few days before. A week before coming to the hospital he began to have visual disorders, which continued until admission. He noticed, on looking outdoors, that the atmosphere appeared smoky and all objects were a yellowish red. A paler yellow round spot could be seen in the field of vision of his left eye, while an irregular green scotoma disturbed the right eye. At times he saw rapidly moving, shiny spots, "like cut glass," about half an inch in diameter, passing horizontally before his eyes. He was able to read without much difficulty.

Physical examination showed his heart much enlarged, with the characteristic murmurs of mitral regurgitation and stenosis. There was persistent bigeminal rhythm, with a rate of 33. There were no signs of congestive failure. The blood pressure was 120 systolic and 70 diastolic.

Electrocardiograms at various times showed a regular idioventricular rhythm of 40 with frequent ectopic beats, a marked inversion of the T wave in Lead 2, and right axis deviation. It was difficult at first to make out any evidence of auricular activity, owing to the extremely slight deviation of the string; but later records revealed auricular fibrillation with ventricular arrhythmia.

Digitalis was omitted and the symptoms were relieved, but it was not until December 31, when the T wave had become + 1 mm. and the rate had risen to 80, that digitalis was again started in small doses.

CASE 2.—I. Z., a housewife, aged 34, was seen in consultation by one of us, May 20, 1924, when a diagnosis of rheumatic heart disease with mitral stenosis and paroxysmal auricular fibrillation was made. There was slight cardiac enlargement but no congestive failure. Rations of quinidin sulphate (0.4 gm. daily) were given to her.

December 23, she was again seen, at her home, having been well until nine days before, when she had had an attack of auricular fibrillation. During the past week her local physician had given her 1.5 gm. (22½ grains) of digipuratum. She was extremely nauseated, and was vomiting and complaining of a constant bad taste in her mouth. For three or four days everything looked yellow to her, even the sky. She was unable to read a newspaper and had a bad headache. The gastro-intestinal disturbances preceded the visual by a day or two.

Her heart showed the same valvular defect, but it varied from a regular rate of 80 to a regular rate of 40, with frequent dropped beats between the two rhythms, undoubtedly partial heart block, at times 2:1.

She recovered from her symptoms in a few days with omission of the digitalis.

CASE 3.—H. P., a housewife, aged 76, was admitted to the surgical service of the hospital, Jan. 28, 1925, for an operation for carcinoma of the breast. Her heart was essentially normal for a woman of her age. There were rather frequent premature beats, but no congestive failure. The rate was from 80 to 90.

She was given 2.8 gm. of digitalis leaf (42 grains) in 13 days, although she weighed less than 90 pounds (41 kg.). At the end of this time she complained that all objects about her were yellow, such as the nurses' uniforms, the pink carnations by her bed, and the automobiles in the street. There was no nausea or intestinal disorder, and the rate and rhythm of the heart were unchanged. Two days after omission of digitalis the yellow vision was much less marked, and within five or six days she had recovered.

CASE 4.—L. M., an Italian laborer, aged 33, was sent to the hospital, Dec. 28, 1924, with dyspnea, palpitation and moderate edema of the legs. A diagnosis of rheumatic heart disease with mitral stenosis and regurgitation, aortic regurgitation and auricular fibrillation were made. He was digitalized in twenty-four hours with a dose of 21 grains (1.4 gm.). The heart rate fell from 135 to 75. He improved considerably and was discharged, Jan. 20, 1925.

Nine days later he returned to the outpatient department. Because of a misunderstanding at the time of discharge he had been given no daily maintenance dose of digitalis, and the apex rate had returned to 120 with absolute arrhythmia. He was given 4½ grains (0.3 gm.) of digitalis leaf a day for a week. He then vomited and discontinued the drug. When

25. Jörg, M.: Expériences avec la digitale pourprée, Arch. général de méd. **26**: 107, 1831.
26. Brunton (Footnote 6).
27. Schulz, H.: Untersuchungen über den Einfluss der Digitalis auf die Empfindlichkeit für Grün und Rot, Arch. f. d. ges. Physiol. **156**: 610, 1914; Neue Untersuchungen über den Einfluss der Digitalis und ihr botanisch- oder wirkungsverwandter Pflanzen auf die Farbenempfindlichkeit des menschlichen Auges, ibid. **163**: 511, 1916.
28. Bohnenberger, F.: Zur Frage der Wirkung von Digitalis auf den Farbensinn, Ztschr. f. d. ges. exper. Med. **11**: 138, 1920.
29. Müller, L.: Zur Kenntniss der Wirkung des Digalens, München. med. Wchnschr. **56**: 904, 1909.
30. Duroziez, P.: Du délire et du coma digitaliques, Gaz. hebdom. **11**: 780, 1874.
31. Christison, R.: A Treatise on Poisons, Ed. 4, Edinburgh, 1855, p. 886.

seen in the clinic he felt much better than at the previous visit. There was no congestive failure, and the heart rate was 60. Digitalis was advised, 1½ grains (0.1 gm.) a day.

A week later he returned complaining of nausea and vomiting, a feeling of suffocation, abdominal distress and precordial pain of five days' duration. He had continued his digitalis, though warned to stop it if nauseated. His abdomen was distended and tender, but there was no evidence of congestive failure. The apex rate was 68, with constant bigeminy (digitalis coupling). He was extremely weak and complained that all surrounding objects looked green. As there was no available bed for him at that time, he was admitted to another hospital.

CASE 5.—E. J., an American machinist, aged 49, seen at the hospital, July 16, 1924, complained of "fluttering" of his heart on exertion for two years. There was no valve lesion evident on physical examination. The rate was 120. An electrocardiogram showed persistent auricular flutter with 1:1 and 2:1 block. The patient was given quinidin sulphate and digitalis when in the ward, without effect on the flutter. August 14, he was discharged with a diagnosis of probable arteriosclerotic heart disease. He has been followed in the cardiac clinic, and auricular flutter has been present whenever he has been observed.

In September, 1924, he was given 36 grains (2.4 gm.) of digitalis in two and one-half weeks, without toxic symptoms or effect on the heart rate. October 2, an electrocardiogram showed an auricular rate of 280, with the ventricle keeping pace. This changed at times to an auricular rate of 320 with 2:1 block. He received 30 grains (2 gm.) of digitalis leaf in the following week. The auriculoventricular block was considerably increased, making the ventricular rate about 100, but he became nauseated and had some dimness of vision. Digitalis was reduced to 1½ grains (0.1 gm.) a day.

Quinidin sulphate was again tried without effect during November; December 18, digitalis was again started. In two weeks he received 5.5 gm. of digitalis. An electrocardiogram then showed impure flutter, with an apex rate of from 85 to 100. He complained of nausea and yellow vision, and said that purplish white spots were to be seen in the line of vision, and a silver scotoma, like a moon, would float from the lower left to the upper right quadrant of the visual field.

He was put on 1½ grains (0.1 gm.) of digitalis a day. This was later increased to 3 grains (0.2 gm.) daily. March 26, 1925, he said that he could still see yellow spots on the floors and walls during the day time, and at night objects assumed a greenish hue. In sunlight, faces appeared dead white without details or as if covered with snow. He had difficulty in focusing his eyes, and his glasses no longer helped him. His cardiac complaints were less, however, as his apex rate was 92, with periods of probable 4:1 block.

CASE 6.—S. W., a housewife, aged 60, had been followed for eighteen years in the outpatient department and treated for hypertension and myocardial weakness. Feb. 6, 1925, she was receiving 1½ grains (0.1 gm.) of digitalis leaf a day. Because of increasing dyspnea she was told to increase this to 3 grains (0.2 gm.) every other day. A month later she returned, having been severely nauseated for four or five days. In addition to this her head felt very full, she was dizzy, and she had a sensation as if she were looking through a mist. She had never had such visual disturbances before, and they seemed to come in attacks several times a day, lasting from a few seconds to a few minutes. Her heart rate was 92. Digitalis was omitted for five days, and the symptoms disappeared.

She said that she thought two pills were probably better than one, and had taken 3 grains (0.2 gm.) a day during most of the previous month. A slow cumulative effect was produced by this overdose.

CASE 7.—J. D., an automobile repair man, aged 58, seen in the outpatient department, March 15, 1922, complained of constipation, and pain over the heart of three years' duration. Physical examination in the cardiac clinic showed slight enlargement of the heart to the left, and a precordial systolic murmur loudest at the apex. The blood pressure was 152 systolic and 85 diastolic. An electrocardiogram showed marked left axis deviation, and a roentgenogram of the heart indicated enlargement in the region of the left ventricle. The blood Wassermann reaction was strongly positive. A diagnosis of cardiovascular syphilis was made.

Feb. 12, 1925, he was seen complaining of dyspnea, and although his lungs were clear it seemed advisable to digitalize him. He was given 1½ grains (0.1 gm.) of digitalis leaf three times a day for a week and told to return at the end of this time. However, he did not return until March 12, having taken digitalis, 4½ grains (0.3 gm.), daily for two weeks, making a total of about 60 grains (4 gm.). He then had considerable nausea without vomiting, marked weakness, with flickering before his eyes and the sensation as if he were looking through a white cloud on going outdoors. There were no abnormal color vision disturbances. His heart showed normal rhythm. The symptoms cleared up on the omission of digitalis.

## COMMENT

All these seven patients received an excessive amount of digitalis. In all but one case, this was due to incorrect dosage by the physician in charge, or misunderstanding on the part of the patient.

Five patients complained of a defect of color sensation; four had yellow vision, one red-yellow, and two green. All complained of decrease of visual acuity, and three said that they seemed to be looking through mist. Two had difficulty in focusing the eyes or reading, two had definite scotomas, and three had flickering before the eyes. In one instance the patient said that surrounding objects in sunlight appeared covered with snow.

In two cases the visual disorders preceded the gastro-intestinal and cardiac effects; in two others, disturbances of the eye were associated with nausea and vomiting as the first toxic symptoms. Two patients with marked visual effects had no change in cardiac rate or rhythm, and one of these had striking xanthopsia without either nausea or cardiac effects.

In three cases, extreme muscular weakness, described in digitalis intoxication, was a prominent feature. This, with the gastro-intestinal complaints, was considered by the patients of more serious importance than the eye symptoms; and it was therefore necessary to question them carefully to secure an adequate description of their visual disorders.

## SUMMARY

Disturbances of vision resulting from the internal use of digitalis have been known at least from the time of Withering. Such disturbances have only rarely been described in the English literature, but have been carefully reported in German and French. Their occurrence at present in this country is very infrequently recognized.

Because of the importance of noting visual disturbances in all grades of digitalis intoxication, we are reporting a series of seven cases. These cases present symptoms of a toxic amblyopia with dimness of vision, flickering and flashing scotomas and marked disturbance of color vision. It is apparent that visual disorders from the therapeutic use of digitalis are more common than is supposed, and should be noted. Further study of the eyes in such cases, especially of the retina and visual fields, is desirable.

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## ABSTRACT OF DISCUSSION

DR. J. B. GUTHRIE, New Orleans: I have seen, following out this plan of the full therapeutic dose, some very excessive doses of digitalis given in the last four or five years, and I never have seen the visual disturbances reported. The only case that I remember occurred about twenty years ago. I had prescribed a dram of fluidextract of ergot every four

hours. The patient got four doses of normal liquid digitalis instead of the ergot. A distressing weakness resulted, but there was not any green vision, although flashes of light were distinctly observed by the patient. There was vomiting but no purgation. Looking back over my own experience with digitalis, I feel that visual disturbances indicate that we have long passed the threshold of safe therapeutic action. However, we must bear in mind that some patients may develop these visual disturbances before they would develop, for example, the extrasystole seen so frequently.

DR. A. I. RUBENSTONE, Philadelphia: I never have made observations that have led me to think that visual disturbances following digitalis are a very frequent occurrence, but it is probably due to lack of investigation more than anything else. The point I want particularly to mention and ask Dr. Sprague about is this: What percentage of visual disturbances are present in patients who have mental disturbances in the course of cardiovascular diseases? We frequently see patients who are very sick, who are under digitalis therapy and who have mental disturbances due to cardiovascular inequilibrium. Of course, in cases of that type there is apt to be visual disturbance. I recall one man who had a variety of mental symptoms, among which were disturbances of color vision. He thought that the intern on service was after him with a 0.32 caliber revolver, and a few minutes after that he made the observation that everything in the ward was green, and so on.

DR. PAUL D. WHITE, Boston: I had the pleasure this winter of collaborating with Dr. Sprague in the observation of these cases, and although I had used digitalis for years before, it was not until last December, when our attention was called to the possibility of visual disturbances by Dr. Henry Jackson of Boston, who discovered a case, that I realized they might be found frequently. Since December we have discovered cases chiefly by careful questioning. Some of these patients are so toxic and have so much nausea and vomiting that the visual disturbance is much less impressive to them, and its presence has to be brought out by questioning; but in some cases it apparently appears even before the nausea, and fades away after the nausea has gone.

DR. HOWARD B. SPRAGUE, Boston: I think the point Dr. Guthrie brought out is very well taken, that we are apt to see the toxic effects of digitalis more commonly than we used to. Before the recent studies of digitalis and its practical therapeutic dosage were begun, digitalis was commonly given in ineffective amounts, but now I think men are beginning to use it in very effective doses and in some instances more than satisfactory doses, so that it might be a good plan to be on the watch for these visual disturbances. As to their coming as early symptoms, the minor grades of visual disorder, the flickering before the eyes and the slight mistiness, may come very early; at least we know that it may come in persons who have not had more than a theoretical dose, assuming that to be 0.1 gm. of powdered leaf for every 10 pounds (4.5 kg.) of body weight. As I said, in some cases there is an idiosyncrasy to the drug which may account for early toxic reactions. In the series we are reporting, several patients were not markedly toxic, as we understand digitalis intoxication from other points of view. Two or three of them were ambulatory, and complained of this disturbance while they were up and around. None of our patients gave evidence of any mental disorder from digitalis. We know that that does occur, and that hallucinations, delirium and coma from digitalis were described by Duroziez in 1874 and probably before that; but our patients did not have mental disorders. One other case that is worth mentioning was described to me recently by Dr. Carr of Chicago. A man who was receiving digitalis in normal doses complained of increasing dimness of vision and finally almost complete blindness. He was seen by a great many ophthalmologists, and they could find nothing on examination which would indicate anything wrong in the retina or in the optic nerve. Digitalis was omitted and his sight returned completely. A few months later, when digitalis was started again, he became blind, but vision returned when the drug was stopped. Since then he has continued digitalis in smaller doses, but a slight excess immediately causes some dimness of vision.

# STATIC PERITONITIS IN THE MALNOURISHED INFANT

## REPORT OF CASES *

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Marfan, in discussing malnutrition in the infant, designates as hypothreptic those infants who have not yet passed the threshold of actual atrophy, and as athreptic those who show the characteristic syndrome recently studied in the laboratory of Marriott and his co-workers. This syndrome is ordinarily caused by food injuries plus acute infections, such as pharyngitis. Chronic or subacute infections, such as tuberculosis or syphilis, or the terminal stage of such acute infections as are produced by the less virulent types of the dysentery group of bacteria, may also be the provocative agents of the metabolic disturbance. The apparent functional disability of alimentation as shown by defective digestion and absorption has, in the past, been attributed to the impaired nutrition of the intestinal glands and of the intestinal mucosa and the muscularis. Yet while this disability is noticeably local in character, it is really caused by a lowered metabolic efficiency of the body as a whole. Clinical research has long endeavored to discover why this type of infant should display wasting and impaired metabolic function so much more intensely than the older child. The phrases "impaired food tolerance" and "metabolic injury" were useful in describing, but not in explaining, this condition. Not until some recent observations were made on the physics of the circulation and the chemistry of the blood in the athreptic infant has definite light been thrown on the probable genesis of these malnutritive states.

### AN ATROPHY OF THE BLOOD

The results of the work of Marriott and Perkins [1] in studies of the blood volume of the athreptic infant are corroborative of the hypothesis that, in this condition, the blood itself suffers a wasting of its formed and unformed constituents, a wasting which results in alterations not only in its chemical constituents but also in its physical volume and flow. Thus, the average blood volume of the athreptic infant under 1 year of age was 8 per cent. of the body weight, with a minimum of 4.1 per cent. This is in striking contrast to the normal infant in whom the blood volume averages 9.1 per cent. In addition, the volume-flow of blood in these abnormal infants was found to be diminished to about one fifth of the normal, and in a few cases to one tenth. A serious diminution in the number of red blood cells in the blood stream, as well as a relative concentration of the protein, was also found to be present as a rule—evidence enough to support the presumption that the blood, considered as an organ, suffers in these children to the same degree as do the other organs or tissues of the body.

Many earlier observers have written of the occurrence of gastric and duodenal ulcers in the athreptic infant. That their development would be favored through the diminished flow and diminished quality of the blood supplying the tissues of the intestine seems logical

* Read before the Section on Diseases of Children at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Marriott, W. M.: Some Phases of the Pathology of Nutrition in Infancy, Am. J. Dis. Child. 20: 461 (Dec.) 1920.

enough. That, likewise, the tissue-ischemia, existing as regards quality and quantity of the blood, and its resultant anoxemia, would intensively favor intraperitoneal infection, especially through the umbilical vessels, and at the same time would diminish the ability of the involved tissues to react vigorously against such an infection, seems not only logical but very probable. The fact that infants who have reached the condition of athrepsia through food injuries, alimentary infections or general infection may develop inflammatory reactions in the peritoneum seems to have been recognized clinically, but that the symptoms of such reactions are not at all typical, even when actual obstruction has occurred, is a fact that has not been emphasized or traced to its cause.

### OCCULT PUS IN THE PERITONEUM

Recently Denzer,[2] in reporting the procedure for aspiration of peritoneal fluid through a capillary tube for the purpose of diagnosis, found that the exudate in a surprisingly large number of atrophic infants showed pus in the peritoneal fluid, although few or no local symptoms were present. He said, "The signs of peritonitis, so striking in the adult, are vague and misleading in the infant. Pain, localized distention and paralytic ileus are either absent or difficult to elicit."

Surgeons have noticed this peculiarity in certain infants. Downes,[3] in analyzing the deaths that followed the operation of pyloroplasty in infants, said that only a necropsy can exclude peritonitis as a cause of death, since local typical symptoms are not present. Many infants who die from this operation are in an athreptic condition and really succumb because of starvation. It is these athreptic infants who develop the occult or static type of peritonitis.

### ATYPICAL INTUSSUSCEPTION IN WEAK CHILDREN

Even such a characteristic symptom-complex as intussusception has atypical cases, which can, perhaps, be explained as the static reaction to abdominal infection seen in athrepsia. In 1,028 cases of intussusception collected by Julius Hess,[4] 170 patients gave details of the history of vomiting and, of these, only four did not vomit when pain appeared or soon afterward. Eighty-nine per cent. of Martin's patients vomited, with fecal vomiting in twelve out of ninety-three of his cases, on or after the fourth day. Tumor was seen in eighty-three of ninety-seven cases in Hess's series, and in Hemmeter and Lichtenstern's [3] cases it appeared in about 50 per cent.

These differences in pain, vomiting and other dynamic features may be explained by Abbot's [5] series of cases —a series carefully studied before operation by a pediatrician as well as the surgeon. All the patients were under 3 years of age. Pain was marked in all the vigorous children, but of those who were in collapse pain was shown only by a drawing up of the limbs. Vomiting was the rule on the second day. Studying the protocols of these cases more closely, it is found that the marked symptoms of pain, vomiting and the like were retarded as a rule, and were diminished in a particular class of cases—those in which the patients were poorly developed or nourished and who, as a result, suffered quick collapse. Dumbar [6] in Edinburgh, reporting fifty-two cases, noted absence of rigidity and evidence of pain, especially in three malnourished infants under 6 months of age. One of these infants was aged 3 months, one 4 months and one 6 months. All had some distention but no rigidity and no tumor. Kahn [7] also speaks of the absence of tumor in depleted children, and reports two such cases in which even with gangrene of the bowel the sausage-shaped tumor was absent.

It is evident, therefore, that, because of a static reaction in the depleted infant, the diagnosis of even so characteristic a disease as intussusception may be difficult.

### NEONATAL INFECTIONS AND PERITONITIS

Probably a very large class of peritoneal infections in the poorly nourished or premature new-born child find entrance by way of the umbilical vessels, causing a periarteritis or, more frequently, a phlebitis. Crawford, at a conference at Children's Hospital, Washington, D. C., a year ago, reported the case of a 3 weeks old infant with subnormal temperature, that apparently died of inanition, with no symptom of peritoneal involvement. What appeared to be an abscess of the right iliac region had been incised and drained. The necropsy revealed a ruptured appendix surprisingly well walled off. At no time were the usual symptoms of peritonitis present.

### ILLUSTRATIVE CASE HISTORIES

CASE 1.—Joseph W., a typically athreptic infant, aged 9 weeks, came to the ward service at Children's Hospital with a history of rapid loss of weight and of diarrhea following the institution of artificial feeding. The skin was grayish and flabby, the temperature was subnormal and the abdomen was scaphoid. A granulating surface was seen over the umbilical scar. The child weighed 6 pounds (2.7 kg.), cried weakly and regurgitated if more than 2 ounces (60 c.c.) of food was taken. One ounce (30 c.c.) of breast milk was given every three hours, and intraperitoneal injections of 4 ounces (120 c.c.) of physiologic sodium chlorid solution was administered once a day. Much to our surprise, the infant gained weight, although the general condition seemed worse. After seventy-two hours intermittent vomiting began suddenly, the abdomen became much distended, and within a few hours death occurred from exhaustion.

Necropsy revealed a septic thrombus in the umbilical vein, and general peritonitis, with a large amount of free pus mixed with some unabsorbed salt solution in the peritoneal cavity. No evidence could be found of injury to the intestine from the injections. A very small perforating ulcer on the posterior wall of the duodenum was seen near the pylorus.

Up to a few hours before death, this infant showed no classical symptom of peritonitis.

During 1924, in my infant ward service, twelve other athreptic infants less than 6 months old succumbed to respiratory infection, with rapid loss of weight and diarrhea. No umbilical infection was found in any of them as in the case of Joseph W., but other symptoms and necropsy findings were similar. Only two of these infants were given intraperitoneal injections of physiologic sodium chlorid solution, and these two gained in weight. Necropsy showed pus in the peritoneum of four infants in this series.

### INFLUENCE OF PREVIOUS INFECTIONS IN OLDER CHILDREN

That severe toxemia, such as that brought about by ileocolitis, even in a previously well nourished infant,

2. Denzer, B. S.: The Diagnosis of Peritonitis and Peritoneal Exudates, Arch. Pediat. **39**: 720 (Nov.) 1922.
3. Quoted by Denzer (Footnote 2).
4. Hess, J. H.: Intussusception in Infancy, Illinois M. J. **8**: 33, 1905.
5. Abbot: Tr. West. S. A., 1915, pp. 299-306.
6. Dumbar, H. J.: Acute Intussusception, Scot. M. & S. J. **10**: 97-150, 1906.
7. Kahn, L. M.: Absence of Sausage Shaped Tumor in Intussusception, M. Rec. **74**: 526, 1913.

may result in an atypical reaction to peritoneal injury is shown by a case from my service at Children's Hospital, that has been reported by Dr. Ella Oppenheimer.

CASE 2.—A colored boy, aged 16 months, had been given table food a week previously, and had developed slight diarrhea with blood and mucus in the stool. When received at the Children's Hospital, he was toxic and showed recent loss of weight, with a depressed fontanel and torpidity. Roughened expiration was heard at the apex of the right lung, anteriorly. The abdomen showed moderate distention, but no rigidity or muscle spasm. The temperature was 102 F.; the pulse, 160; the hemoglobin, 50 per cent.; white blood cells, 20,000; red cells, 2,500,000. The urine showed albumin and a few hyaline casts. During the first day in the hospital, no bowel movements occurred. An enema resulted in a fecal stool with blood and mucus. The abdomen had become more distended and the breathing more rapid. Fluid given was well retained. Dulness was found in the right axillary region, from the fifth to the seventh rib; a cough was present, but there was no vomiting. The patient was evidently not in pain, but gave the clinical impression of pneumonia complicating colitis. The following day the temperature remained at 104 F. and the abdominal distention increased rapidly. Rectal examination was negative, but enemas produced mucus flecked with blood and did not relieve the tympany. Vomiting began on the third day, and stomach lavage returned gas with mucus and blood. A diagnosis of intestinal obstruction, probably due to intussusception, was made. At operation the ileum showed dark areas corresponding to ulcerated patches in the mucous membrane. The entire bowel was much distended, and perforated when handled. The cecum was distended and covered with adhesions. The child died soon after closure of the abdomen.

At necropsy, an intussusception of the ileum and appendix into the cecum was found. Much edema and one gangrenous area were observed in this portion of the intestine. Inflamed and hemorrhagic areas were seen throughout the intestine, and in many places the peritoneal coat was split and had separated from the intestinal coat. When the intestine was opened, numerous small ulcers were found in the mucous coat of the ileum and colon. Permission for a more complete necropsy was refused.

This depleted infant suffering from ileocolitis, and probably from a complicating pneumonia, died of intussusception, with practically none of the earlier symptoms regarded as classic. The effect of the original dysentery in bringing about this depletion cannot be ignored.

### ANATOMIC INTUSSUSCEPTION FOLLOWING THE USE OF PITUITARY EXTRACT

That vomiting and other dynamic symptoms need not occur in these weak infants who have intussusception is well shown in a case from the service of Dr. W. F. O'Donnell.

CASE 3.—A boy, aged 13 months, admitted to St. Ann's Infant Asylum, was supposed to have been four to six weeks premature. Most of his life he had been ill with gastro-enteric upsets and a persistent cough. When he was 12 months old, a diagnosis of miliary tuberculosis was made. The child was emaciated; weighed about 8½ pounds (3.8 kg.); the fontanel was sunken; face drawn; eyes prominent; tissue turgor practically absent; chest poorly developed and filled with numerous fine râles; abdomen markedly distended and very tense. Muscle spasm and rigidity could not be made out, and special masses could not be seen nor felt. The distention was apparently interfering seriously with respiration, and repeated soapsuds enemas failed to give relief. Pituitrin obstetrical, Parke, Davis & Co., 0.3 c.c., was injected intramuscularly at 2 p. m. Wormlike movements of the distended intestines could easily be seen, and a quantity of gas was expelled from the rectum. A soapsuds enema was returned with large quantities of gas and a green stool containing mucus. After the enema, the abdomen was soft and the dyspnea was appreciably relieved. At 11 p. m., pituitary extract and enema were repeated for the same indications and with a similar result. The child gradually became weaker during the night and died at 6 a. m. No vomiting or convulsions preceded death.

Necropsy showed four areas of intussusception; three were in the small intestine and were 1½ inches (4 cm.) long—one of these areas was just invaginating; the area in the large intestine was in the transverse colon and about 1 inch (2.5 cm.) in length. All were reducible, and the shortest in the small intestine reduced readily. The invaginated areas were congested, with fine adhesions between the peritoneal coats. Throughout the abdomen were a number of adhesions between loops of intestine, and at each invagination the involved intestine was in whole, or for the greater part, surrounded by a constricting adhesion.

Evidently, as a part of a general infection with tuberculosis, a tuberculous peritonitis was present with adhesions that produced a gradually increasing ileus. The storm of peristaltic waves produced by pituitary extract and the enemas forced the proximal portion of intestine into the distal at points at which the adhesions were strong enough to interfere sufficiently with the regular progression of peristalsis. This must have occurred some time before death, since the involved bowel was congested. We must, of course, consider the unequal peristalsis that comes in the death struggle. The occurrence of intussusception of the dying is not uncommon and has been noted frequently at necropsy in infants that are normal in other respects. In intussusception of the dying, multiple small invaginations are found, which are very readily reducible, as in this case, but no congestion is seen in the intestine subjacent to the invaginated loop, nor in the loop itself.

Pituitary extract in cases of ileus, or in inflammatory conditions when there are adhesions, may produce an intussusception of the dilated bowel, and is consequently not without danger. This athreptic infant did not react symptomatically to the same degree as the normal child, especially in the matter of vomiting or crying from intense pain during the early stages of intussusception, nor in the usual local signs of intestinal obstruction, although numerous constricting bands and several areas of intussusception were found at necropsy. No blood was observed in the stool at any time.

### CONCLUSIONS

If it is permissible to draw conclusions from the foregoing, we may deduce the following:

1. Premature, toxic, and typically athreptic infants display symptoms of peritoneal injury in a manner that may be termed static. One patient showed infection through the umbilical vein.

2. In intussusception in the athreptic infant, pain, tumor and vomiting may be seen only late in the disease, and diagnosis may be difficult.

3. Even slight distention, not reducible by enemas, in emaciated infants, should be a contraindication for intraperitoneal instillation of salt solution or blood. *A gain of weight after this procedure in desperately ill athreptic infants means a nonabsorbing peritoneum.*

4. Usually, by the time it is possible to establish the diagnosis with certainty, treatment is unavailing. Hence the need for prophylaxis of athrepsia by breast milk feeding and care as to the hygiene of the infant in the first weeks of life.

5. The use of pituitary extract to promote peristalsis in young infants is fraught with danger, since it readily produces intussusception.

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# THE PSYCHIATRIC CLINIC IN THE GENERAL HOSPITAL*

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Among the many recent advances made by the medical sciences, none can approach in extent and significance those made by psychiatry. Within a brief period of some twelve years, the latter has extended its scope of activity from the narrow, circumscribed field of caring for the mentally sick committed to state hospitals for the insane to the large, boundless sphere dealing with the problems of the great realm of conduct disorders. In so doing, it did not confine itself to unraveling the mysteries of the psychoses, or plumbing the depths of the roots of the psychoneuroses, but it also penetrated the jungles of criminology and penology, invaded the marshes of delinquency and dependence, entered the sacred domains of theology, and did not even spare the sanctity of the home and family. As a result of this adventure, many new facts have been brought to light, and greater emphasis has been laid on those already known, so that a better understanding of human behavior can be arrived at in the light of the knowledge thus gained.

The credit of this achivement belongs to many workers in the various fields of psychopathology and mental hygiene, especially to the staffs of the National Committee for Mental Hygiene. This committee, after a scientific, systematized plan of action, has brought to light many invaluable facts relative to the general subject of mental disease. Uniform psychiatric nomenclature has been encouraged so that at present psychiatrists not only think alike but also speak alike. Surveys in jails and penitentiaries have proved the old belief that the vast majority of criminals are mentally ill. Surveys in the field of delinquency and dependence likewise established the causal relationship of these phenomena to mental aberration. Demonstration clinics have been established throughout the country, thereby creating a market for mental hygiene by revealing to the community the value of the psychiatric approach, not only to definitely psychiatric subjects, but to allied sociological problems as well. The *Journal of Mental Hygiene*, and, lately, the *Mental Hygiene Bulletin*, have made mental hygiene no longer a luxury, but a necessity to the average community. As a result of the various studies from the different groups of workers, many facts have been brought prominently to the foreground. Some of the most prominent ones are the following:

1. Human action results from definite internal and external factors which are subject to modification by proper training.

2. The pattern of human reaction is formed in infancy and childhood.

3. Many of the cases of delinquency, dependence and criminality are the result of disturbance in the pattern formation of conduct in infancy, or the result of mental defect and disease.

4. Insanity is a legal, and not a medical, term.

5. Owing to the many legal complications entering the treatment of psychotic people, there is a general misunderstanding on the part of both the legal and the medical profession as to the exact method of procedure in their management.

6. There is a general aversion on the part of the public for state hospitals.

7. There is a great need for treatment of the mentally sick outside state hospitals and licensed private institutions.

8. There is a need for means of detecting earliest possible manifestations of mental disorders.

9. There is an urgent need for mental clinics in the schools, courts and penal institutions.

10. There is a great need for the psychiatric clinic in a general hospital.

## DEVELOPMENT OF PSYCHIATRIC CLINICS

The establishment of mental clinics is of only recent origin. Until about 1913, the state hospitals and private licensed institutions were more or less isolated from the rest of the community, and concerned themselves only with the care of their wards, paying no attention to the environment from which they came or to which they were returned. Thus, only those who were legally committed to these institutions were able to receive proper psychiatric care. Those suffering from mild forms of mental disorder, not requiring commitment or certification as insane, were unable to get treatment. Even those who were discharged from the state hospitals were suddenly forced to shift for themselves in environments which were often the very cause of the mental break. Occasionally, a far sighted superintendent of a state institution offered a means for those who were not necessarily certifiable as insane to come to the institution to receive help for their mental ailments. Thus, as far back as in 1885,[1] the superintendent of the Pennsylvania State Hospital for the Insane opened a clinic in the outpatient department of the Pennsylvania General Hospital "for the advice and treatment of mental diseases in their early or incipient stages, occurring among the poor and indigent, where such diseases had not so far progressed as to require restraint within the walls of the hospital." This clinic, to the best of my knowledge, was the first attempt at the establishment of a psychiatric clinic in a general hospital. In 1909, the superintendent of the St. Lawrence State Hospital, Ogdensburg, N. Y., set aside one day a week for the treatment of incipient mental cases that might arise in the community not necessarily requiring intramural care. But these are mere sporadic instances in which men much ahead of their times recognized the urgent need for such clinics.

About 1913, the psychopathic hospital idea gained a foothold. An opportunity was thereby furnished for incipient mental cases to receive exhaustive psychiatric survey and treatment without being forced to enter state asylums. Outpatient departments were opened at the Phipps Psychiatric Institute and at the Boston Psychopathic Hospital. In the same year, a law was passed making it mandatory in the state of New York for the superintendents of state hospitals to establish clinics. Patients were no longer discharged from the various institutions but were placed on parole for periods from three months to two years, so that while they might be at large, they were still required to report to these clinics for assistance and treatment to insure proper adaptation to their environments. It was found that, in order to enable these paroled patients to carry on, it was necessaary for them to receive help in securing

* Read before the Section on Nervous and Mental Diseases at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Allbot, E. S.: Outpatient or Dispensary Clinics for Mental Cases, Am. J. Insan. 77: 217 (Oct.) 1920.

employment, adjusting family situations, obtaining proper medical attention, and, frequently, moral support. In order to accomplish this, a social service system was instituted, whereby a worker trained in psychiatric problems made frequent visits to the homes of the patients, assured their visits to the mental clinic, and looked after perplexing problems that might arise. These clinics have, in a measure, brought the community in closer touch with the state hospital, and have tended to dispel the fear and distrust entertained toward them by the public at large. The community was encouraged to bring to the clinic those who presented mental disorders in general—the mental defectives, delinquents and problem children. Thus, these clinics offered invaluable service in the solution of problems other than that of caring for the parole patients, becoming a sort of clearing house for mental derelicts.

### BEHAVIOR PROBLEMS IN CHILDHOOD AND ADOLESCENCE

Simultaneous with the establishment of the mental clinic, there has arisen a universal solicitude for child welfare. Various charitable organizations and child caring agencies, and juvenile courts, have established mental clinics of their own. Healy, Adler and others entered on intensive studies of juvenile delinquency in courts and penal institutions. Even industrial and business organizations have found it expedient, as a matter of business policy, to establish miniature psychiatric clinics for mental surveys of their personnel. In 1914, at Leavenworth, Dr. King established the first army mental clinic in order to deal with problems that would arise among the enlisted men, and in the military prison. In 1916, Dr. Glueck [2] established a clinic at Sing-Sing prison, which was fostered by the National Committee for Mental Hygiene. With our entry into the war in 1917, the absolute necessity of these clinics in dealing with human problems became obvious. Never before did the country face such problems as at that time. The Neuropsychiatric Division of the Army was then established, and its work is familiar to every one interested in psychiatry. Its work has been monumental. At the close of the war, the National Committee for Mental Hygiene, under the leadership of Dr. Salmon and Dr. Williams, entered on its program of surveys [3] of jails, penitentiaries, almshouses and charity organizations, and of the institution of demonstration clinics in different cities. These surveys have proved even to the skeptic the relationship of mental disease to crime and dependence. Intensive investigations in behavior problems of infancy, childhood and adolescence were instituted in clinics established by heavily endowed foundations, such as the Commonwealth Fund and the Judge Baker Foundation. Many charitable and religious organizations soon began to form mental clinics of their own in order adequately to handle the problems that are unique in their own particular philanthropic work.

While workers in neuropsychiatry, social service workers, and directors of philanthropic organizations are well acquainted with the growth of the mental hygiene clinics, and the valuable knowledge gained from them, the general medical practitioner knows very little of them. In fact, he has less information about psychiatric subjects in general than the average psychiatric workers. Furthermore, the average family in noticing conduct disorders among its members usually first consults the family physician for advice and "first aid." In the greater number of instances, he is unable to furnish any. As the result, the family, in despair, often falls prey to illegal practitioners, the quacks and faddists. Moreover, the objective of all workers in the various phases of psychiatry is the consideration of all behavior disturbances as manifestations of a disease process, and the problem as medical with many sociological phases, to be sure, but not as legal. However, the methods of approach and activities and efforts of these different workers have been at times too isolated and too divergent, and there is need for a common meeting place. It is also to be remembered that there are many serious mental diseases whose first clinical manifestations are somatic ones. Very frequently a thorough serologic and physical study is essential in the arrival at a proper appraisal of the symptoms presented. Hence the necessity of a psychiatric clinic in a general hospital.

### TREATMENT OF NEUROTIC CHILDREN

The psychiatric clinic must first concern itself with children. It has been shown by surveys of public school children that on the average from some 15 to 20 per cent. are abnormal mentally, either being feebleminded, epileptic or neurotic, or showing endocrinopathy. It is this small group of mentally abnormal children which provides the vast majority of our delinquency and dependence problems later on in life. Freudian psychology has long laid stress on the infantile psychic trauma as cause for psychoneurotic conditions. We must never lose sight of the fact that the child of today is the man of tomorrow. All workers in the field of human behavior agree that the pattern of the conduct of an adult is formed during infancy and childhood. The child is like a young flower. If properly cared for, and if environmental conditions are suitable for the particular plant, it will result in a wonderful blossom. If the average child receives reasonable care and attention, it will produce a full, wholesome and normal personality. If, on the other hand, the environment is unsuitable and unhealthy, and if the child does not receive proper care and attention, it will become a stunted, unhappy personality, with potentialities for developing into an adult dependent or criminal. As pointed out by Thom,[4] young children, because of their plasticity, suggestibility, imitativeness and love of approbation, are very susceptible to proper training. Working on these fundamentals, he established habit clinics for children in the preschool age. This may well be utilized by our psychiatric clinics in a general hospital, working in conjunction with the pediatric department or with its nutrition clinic. Because of their plasticity, their personality could be modeled and remodeled, and healthful habits can be easily developed. Habits in regard to somatic conditions, such as proper dietary habits, sleeping, bathing and elimination, may be easily formed, and these are of vital importance in forming personality. Because of their suggestibility, all sorts of unhealthy reactions may be occasioned in children by indiscreet words or actions on the part of the parents. Because of the child's imitativeness, just as it first learns to say "daddy" and "mamma," so will it soon imitate good or bad examples set by the parents and others in the immediate environment. Hence it must be pointed out to parents that no deception, no cruelty, no ill temper and no other similar traits be dis-

2. Glueck, Bernard: Types of Delinquent Careers, Ment. Hyg. J. 1: 17 (April) 1917.
3. Mental Hygiene Surveys of Cincinnati, St. Louis, etc., National Committee for Mental Hygiene, New York.
4. Thom, D. A.: Habit Clinics for Children of the Pre-School Age, Ment. Hyg. J. 6: 464 (July) 1922.

played in the presence of children. Because of their love of approbation, we must not hesitate to call attention to and give reward for every kindly and worthy act done by the child, so as to encourage proper character formation.

The neurotic child [5] should receive a thorough study in the psychiatric clinic. Those presenting somatic disorders must be subjected to thorough scrutiny from every conceivable angle. Eye strain, bad teeth, malnutrition, discharging ears, anemia, irritating foci about the genitals, skin eruptions, skeletal abnormalities and cardiac and pulmonary disturbances must be actively combated. Signs of irritability, night tantrums, insomnia, enuresis and bad sexual habits may all be due to intestinal parasites. Those children displaying bad temper, lack of attention, day dreaming, excessive phantasy indulgence, undue timidity and shyness, inability to mix freely with children of the same age, undue precociousness, marked fear or anxiety, pathologic lying or stealing, marked psychomotor restlessness, pathologic sex activity, capricious dietary habits, spasms and fits must receive exhaustive psychiatric study. Intensive work during the last three years with the group classified as constitutional psychopathic inferiority has forced on me the conviction that the genesis of this perplexing condition is in faulty habit formation during childhood and infancy, and that it frequently manifests itself as neurotic conduct in childhood and adolescence.

Backward children should receive thorough classification and intensive study. As pointed out by the late Dr. Fernald,[6] mental deficiency cannot be diagnosed on a mere psychometric examination alone. According to his scheme of inquiry for clinical studies of borderline mental defectives, it is essential to have a physical examination, a family history, a personal development history, a history of school progress, an examination in school work, practical knowledge and general information, economic efficiency, social history and traits, and moral reaction of the patient, in addition to the psychologic tests, in order to establish an adequate evaluation of the limitations and possibilities of the mental defective in question. A mental defective with an intelligence quotient of about 60 per cent., but of a rather pleasant and agreeable personality and of cleanly habits, who has a working knowledge of general affairs and who, perhaps, has special mechanical ability, offers a problem entirely different from the one presented by a person of the same intelligence quotient who is given to cheating and lying, who is irritable and pugnacious, and who has no aptitude for any work. As pointed out by those who have worked intensively in the field of mental deficiency,[7] it is essential for the average mental defective to receive a proper vocational training in order to assure satisfactory adjustment in the community later on in life. The clinic could well help in training these mental defectives. Furthermore, it can look after those who have had special training in such institutions as that at Rome, N. Y., where, under the practical and humane policy instituted by an exceptional superintendent, proper habits and vocational guidance are given to the inmates, and under a system of colonization and parole, they are able to return to the community and become self-supporting, law-abiding members.

5. Campbell, C. M.: Nervous Children and Their Training, Ment. Hyg. J. 3: 16 (Jan.) 1919; The Mental Health of the Community and the Work of the Psychiatric Clinic, ibid. 1: 572 (Oct.) 1917; The Rôle of the Psychiatric Dispensary, Am. J. Insan. 71: 439 (Jan.) 1915.

6. Fernald, W. E.: The Introduction of a State-Wide Public School Mental Clinic in Massachusetts, Ment. Hyg. J. 6: 471 (July) 1922.

7. Anderson, V. V.: Education of Mental Defectives, Ment. Hyg. J. 1: 85 (Jan.) 1921.

As previously pointed out, studies of school children indicate that approximately from 15 to 20 per cent. may be classified as definitely pathologic, and that this small percentage constitutes later on the majority of the delinquents, dependents and criminals. The residents of our penal and correctional institutions at one time or another passed through the schools of the country. From the children who are now enrolled in the various schools will come the next group of dependents, delinquents, criminals and mental patients. It is therefore of the utmost importance that we encourage the school authorities to bring to the clinic all those children who present the slightest deviation in conduct. While some parents might object to having their child brought to a mental clinic conducted by a state hospital or at some special institution or philanthropic organization, it is not likely that they would refuse permission to have the child examined in a dispensary attached to a general hospital. It would give the teacher working with her children a broader approach to her problem, and it would greatly increase her interest in her work in that it would vary its monotony by the solution of problems dealing with neurotic and backward children. It would thus enhance her value as a teacher by the acquisition of deeper insight into her own special educational tasks.

The group to which the psychiatric clinic in a general hospital should be of invaluable service is the epileptic. Those of us who have been working for years in neurologic and mental clinics have been impressed with the faithfulness with which these patients carry out our orders, and the punctuality in their attendance. The vast majority of them have good insight into their condition and are often embittered by their hard lot. They are often denied an education, and are refused employment because of the horror their disease inspires. When carefully managed, by proper dietary and medicinal agents, by adequate psychiatric approach to their problems, and by expert attention to their physical ailments, they can be made self-supporting and productive members of the community.

### ADOLESCENT AND OLDER PATIENTS

The dangers attending adolescence must be met by the psychiatric clinic. Emotional conflicts that arise at this period are apt to cause anti-social conduct. The development of the sex instinct and the various changes in the endocrine glands that occur at this time of life are often the basis of behavior difficulties. Sex perversions may be entered into at this period of development. Feelings of inferiority must be combated, and these may be the cause for antisocial conduct. The family situation must be carefully gone over with the parents, and with the assistance of the trained psychiatric worker, any conflict that might arise from it must be combated. Glandular therapy at this period of life has proved of value in the hands of trained physicians. The psychiatrist must outline plans for substitute outlets to replace delinquent conduct. The instinctive and emotional craving so powerful at this time of development must be sublimated along socially approved channels.

It must be remembered that at this period also the various psychoses manifest themselves. Thus, the seclusiveness, excessive day dreaming, marked egocentricity, stubbornness, excessive shyness, inability to mix freely with members of the opposite sex and inability to make friends among one's own sex are danger signals of an impending schizophrenia. Marked fluctuation in emotional reaction, and disturbances in the field of psychomotor activity, lack of concentration and failure of attention may be forerunners of a cyclothymia.

The clinic must concern itself with the management of the psychoneurotic patient. It is this large group of mentally sick persons who, because of inadequate treatment from physicians, seek help elsewhere, and constitute the largest number of the clientele of the various faith healers, quacks and illegal practitioners. Their problems must be freely and openly discussed with them, and elementary principles of mental hygiene must be explained to them. They must be encouraged to face reality and responsibility. All forms of therapy, from simple suggestion to psychanalysis, can be successfully carried out in this clinic. It is amazing how common is the practice of coitus interruptus among people of intelligence, and how relatively frequently this factor is a cause of a severe psychoneurotic reaction. Instruction in proper sexual hygiene has cured many a person who has actually been incapacitated because of prolonged indulgence in this habit.

As the person approaches the climacteric, he is often in need of expert psychiatric advice. Unfortunate sex or marital relationship, disappointment in children, lack of achieving a satisfactory position in life, and unattained ambitions may all tend to upset the mental poise of the individual. Paranoid states, periods of depression, arteriosclerotic reaction, and economic failure may elicit pathologic reactions. The complaints of these persons are often physical in nature, and they usually seek advice and help from the general medical dispensary. The psychiatric clinic is indispensable in helping these people.

A good deal of psychiatric thought has recently been given to the subject of treating paresis with malaria. Tryparsamide also has received its share of attention. It is but right and proper that any agent which might be of value in combating this horrible disease should be carefully studied and utilized. But there are many who honestly believe that paresis is the result either of failure to detect early syphilis or of inadequate therapy. The psychiatric clinic in the general hospital, when working in conjunction with the genito-urinary, gynecologic and dermatologic departments, is in a position to make paresis an infrequent disease. Every offspring of a syphilitic person should be examined by the psychiatric clinic, not only from a behavior and psychologic point of view, but from the serologic as well. Every syphilitic patient should have a similar psychiatric survey. By a systematic, concerted plan of action, the number of syphilitic persons developing paresis could be reduced to a minimum. The clinic could also look after many paretic patients paroled from state hospitals. It might also treat those patients with paresis who would not require institutional restraint. The clinic should concern itself with the handling of juvenile paretic patients, not only in the arrival at a proper diagnosis and differentiation from the general group of feebleminded, but also in the institution of proper therapy.

### A CENTER OF INFORMATION

The psychiatric clinic in the general hospital supplies the long felt want of a readily accessible source of information on general psychiatric subjects for the medical profession at large. It is surprising how limited is the range of psychiatric knowledge of the average general physician. Dementia praecox is the usual term applied to every conceivable form of mental aberration. To be sure, the medical schools at present offer thorough courses in psychiatry, but the average medical student's interest in psychiatry usually ceases when he passes his final examination in this subject. Later on, when in private practice he is confronted with a psychiatric problem, he is at a loss where to seek information and assistance. Moreover, the management of psychiatric problems usually has many sociological implications, so that it is necessary to have accessible data relative to social service agencies, charitable organizations, state hospitals, psychopathic hospitals and institutions for mental defectives, all of which could be furnished by this clinic.

The mental clinic in a general hospital is in a position to furnish information on psychiatric subjects that are not encountered in state hospitals. The deliria accompanying the various infectious diseases should produce valuable information regarding the personality of patients, as well as their subconscious trends. Pregnancy frequently precipitates psychoses, and, most often, transitory psychotic episodes which may not last a sufficient length of time to necessitate commitment to psychopathic hospitals. The various anemias and cardiovascular diseases are likewise often associated with interesting psychotic reactions. Arteriosclerosis in general, as well as some of the chronic nephritides, often supply interesting material for psychiatric study and research. It is common knowledge that brain tumors commonly fail to give the so-called cardinal signs, and first manifest themselves as obscure psychiatric states. There is a great need for an exhaustive study of endocrine diseases, especially in their histopathologic phases. The literature is literally flooded with clinical data on this subject, but it is poor in pathologic reports. It is opportune to mention in this connection the work of Mott [8] on the relationship between the gonads and the genesis of dementia praecox. By utilizing the finer histopathologic and staining technic, he was also able to demonstrate changes in the pituitary and the other glands in the deteriorating psychoses. Likewise, there is a great need for further research in brain pathology. The work of Southard [9] in this direction and lately that of Mott and his co-workers should prove a source of inspiration for further effort. Orton [10] recently called attention to the inadequacy of the present available staining methods for the demonstration of changes of physicochemical nature that occur in the brains of patients that have shown definite organic reaction. Epidemic encephalitis, in every phase and stage of the disease process, offers an inexhaustible source for study of pathologic mental reactions.

The country at large is at present aroused over the great wave of criminality that is sweeping over it. Everything is being suggested as a possible cause of this problem, from the greatest achievement of science to the very elements of nature itself. Impossible laws, bigoted reformers, the automobile, the motion picture, the radio, lack of religious training, and even the very rays of the sun have been enumerated among the possible causes. When one considers that approximately two thirds of the population of our penal and correctional institutions have been shown by surveys [11] to be suffering from a mental disease or defect that has a definite bearing on their antisocial conduct, it is but logical to expect psychiatrists to produce explanations for and offer solutions of this problem. Recent tragic events have shown the importance of the recognition of

8. Mott, F. W.: The Reproductive Organs in Relation to Mental Disorders, Brit. M. J. **1**: 463 (March 25) 1922; The Genetic Origin of Dementia Praecox, J. Ment. Sc. **68**: 333 (Oct.) 1922; Histological Examination of the Pituitary Gland, ibid. **69**: 297 (July) 1923.

9. Southard, E. E.: On the Focality of Microscopic Brain Lesions Found in Dementia Praecox, Arch. Neurol. & Psychiat. **1**: 172 (Feb.) 1919.

10. Orton, S. T.: Negative Histological Findings in Experimental Organic Processes, Am. J. Psychiat. **4**: 599 (April) 1925.

11. Mental Hygiene Surveys of Cincinnati, St. Louis, etc. Raphael Theophile, et al.; Sociopsychiatric Delinquency Studies, Ment. Hyg. J **8**: 452 (April) 1924.

the various problems in childhood long before their manifestation in overt acts of antisocial conduct. These have elicited considerable unfavorable editorial comment from the lay press. Recently, psychiatric opinion has been subjected to severe criticism because of the diametrically opposed views which alienists have offered in some of the notorious medicolegal cases, and also because the poor person is frequently deprived of expert psychiatric opinion that is purchased by the rich. The first criticism can be combated by merely calling attention to the fact that difference of psychiatric opinion as compared with difference in legal opinion is like an harmonic symphony compared with a rhapsody of incoherence. The second criticism may ably be combated by the psychiatric clinic in a general hospital, which would be in a position to offer expert advice to the poor.

The presence of the psychiatric clinic in the general hospital is assured. From every part of the country,[12] from our immediate neighbors, such as Canada,[13] to our distant friends in Australia,[14] are published the reports of the workings of these clinics. The success and failure of any one given clinic will depend on its personnel. The director of the clinic must be a psychiatrist of wide experience and special aptitude for his work. The study of mental disorders requires a long apprenticeship, and there are no shortcuts for acquiring psychiatric knowledge and experience. A six months' course of training in a foreign country in one of the many modern schools of psychology or psychopathology is surely inadequate to enable a man to assume leadership of such a clinic. A properly trained psychiatric social service worker is likewise indispensable for the success of the clinic. A properly trained psychologist is a very desirable addition to the personnel. Properly kept records and proper clerical assistance will enhance the value of the clinic. The following few cases illustrate the necessity of the psychiatric clinic in a general hospital:

### REPORT OF CASES

CASE 1.—C., a man, aged 42, referred to us by the medical service for a neurologic opinion, had been operated on for a right genuvalgus in November, 1924. The operation was successful, but since then the patient had been complaining of pains in the legs, backache, headache and insomnia. He was given a thorough physical survey, and nothing was found to be pathologic. He was given physiotherapy treatment for three months, but that did not ameliorate the symptoms. Serologically, the examination was negative. The patient entered the clinic room in a quiet, orderly manner, was very well dressed, and seemed to be a man of affairs. In fact, his appearance was such as to make us wonder why a man of his type should come to a public clinic. The neurologic examination was negative. It was quite obvious that his complaint was functional in character. We frankly told him that nothing was found in his physical condition that could account for his symptoms. We then asked him whether he had any worries or troubles at home. He replied that his difficulties were such that it would take too long to relate them. He was assured that he could have all the time he needed, and that the purpose of the clinic was to help just such cases as his. He then gave the following story:

He was born on a farm in New Jersey. He had a country high school education. At the age of 18 he secured employment as clerical assistant in a trust company in Manhattan. He was of rather quiet, reserved manner and of good habits, was regular in his church attendance, and had never had any conflicts with the law. He had a puritanical training and had never indulged in illicit intercourse, nor did he ever take alcoholic beverages. At 25 he married a girl three years his junior and in five years had a family of three children. Eight years before examination his earning capacity was $40 per week. He stated that his trouble commenced then. An evangelist came to the village where the patient was living and his wife took an undue interest in the evangelist's activities. She refused to cohabit with the patient, saying that such an act was entirely too animal and vulgar. The patient, however, kept at his work and supported his family. Six years before admission, while diving in shallow water, the patient's foot struck a rock, and he hurt his big toe. This gave him considerable annoyance, especially during rainy and inclement weather. Two years before examination on returning home from his work, he found that his wife had left him, taking with her the two younger children and all the furniture. The oldest child was at that time spending a vacation on the patient's sister's farm. One week later he was summoned to court on a charge of desertion. It required two days to settle the legal complication of the summons, and he therefore absented himself from his position. A week later he was arrested on the same charge, and he remained in jail for a day. This resulted in the loss of his position. A separation was agreed on, his wife taking the two younger children with her, the patient agreeing to give her all of his salary except $3 a week for his immediate personal expenses. He found that he could not live up to this agreement, and he was again arrested. He then moved to New York, where he boarded in one of the cheap hotels. He had to take a clerical position at a salary of $25 a week. He had not seen his two younger children for about six months, when he was informed that his second son had pneumonia. He then began to experience intense pains in the toe that he had injured six years before. Finally he consulted several physicians, and he was advised to have operative intervention. The operation was successfully performed. While in the hospital he received a bill amounting to $110 from a contagious disease hospital in New Jersey for treatment given to his daughter. He then learned that his wife had entered a training school for nurses and boarded out the two younger children; his daughter contracted scarlet fever, and she was then removed to a contagious disease hospital. When he was discharged from the hospital he visited the child, and found her in a critical condition. His own illness seemed to have assumed undue significance. He could hardly walk because of the pain in his right foot. He could not do his work satisfactorily, and his superior officers often called his attention to it. He kept seeking relief from his pain, but without any avail. He then complained of terrific suboccipital headache. He lost a good deal of sleep about his children, and often pondered over his own helpless lot. After the interview, which lasted about one hour, the patient said: "You know, Doctor, I feel so much better now. You are the only one to whom I ever told this, as you are the only one that ever seemed to be interested in me. My headache seems to be gone. I wonder if it isn't my personal affairs that are troubling me rather than my foot?"

CASE 2.—Mrs. J., aged 38, referred to us by the medical clinic for an opinion, had been attending the clinic for a month complaining of belching, inability to eat, constipation, and general abdominal distress. She walked into the clinic in a typical depressed manner; her appearance was dejected; her gait was slow; her steps were measured, and her mood was definitely depressed. She showed a definite retardation and psychomotor inhibition. It was obvious from the appearance of the patient that she was suffering from a depressed phase of manic-depressive psychosis. The physical examination, serologic findings and roentgenograms of the gastro-intestinal tract were negative. Neurologically she showed nothing of significance. She was accompanied to our clinic by her husband, a friend of the family, Mr. A., and her sister. Her sister and her husband stated that she had been acting in a dejected manner for a period of some two months; had become more or less downhearted, and had lost interest in her home and in her children, and that she displayed unusual antagonism to her two younger children, who had been her favorites. They stated that she had had a similar attack fifteen years before, when on her honeymoon trip. That attack lasted for five months. When interviewed, the patient gave the following story: She came to this country from Holland in 1909 and resided with her mar-

12. Oberndorf, C. P.: The Psychiatric Clinic and the General Hospital, M. J. & Rec. **121**: 7 (April 1) 1925.
13. Clarke, C. K.: A Study of Five Thousand Six Hundred Cases Passing Through the Psychiatric Clinic of the Toronto General Hospital, Canad. J. Ment. Hyg. **3**: 11 (July) 1921.
14. A Psychiatric Clinic in Sydney, Brit. M. J. **1**: 697 (April 21) 1923.

ried sister. There she met Mr. A., who boarded with the sister. She fell in love with him, but he did not reciprocate her affection. She worked in a factory, and she was able to support herself fairly satisfactorily. She was, however, disappointed in not being able to win Mr. A.'s love. When Mr. J., her present husband, proposed marriage to her, she accepted him in a spirit of proving to Mr. A. that she could live quite well without him. They took a trip to Holland to spend their honeymoon in their native land. When two days at sea, she suddenly realized that she had married a man whom she did not love and that the future had very little in store for her. She became sad and downhearted, cried a good deal, and had frequent outbursts of excitement. In one of these, she took off her wedding ring and threw it into the sea. Because of her mental condition, they immediately returned to America. After about five months her condition gradually cleared, and she regained her former natural poise. A child came, and her time was taken up in rearing it. Her husband was working steadily, but did not earn sufficient to enable them to live comfortably. They then decided to have some one board with them, hoping thereby to increase the family income. Mr. A. was therefore invited to live with them The patient freely and spontaneously stated that she had really planned to have Mr. A. live with them in order that she might be close to him. The inevitable soon followed. She claimed that she had absolutely no love for her husband, and was frigid sexually toward him. To Mr. A., however, she was easily aroused, and she was certain that he was the father of the two younger children. This condition continued until the early part of 1922, when Mr. A. had a definite psychotic attack and was committed from the psychopathic ward of Bellevue Hospital to the Central Islip State Hospital. After a year he was discharged from that institution and returned to live with them. He had, however, become sexually impotent, but this did not prevent him from indulging in all sorts of sexual aberrations with the patient. Her attitude toward him since his state hospital residence had changed somewhat. It had assumed an iconoclastic tone. About the middle of May, 1924, she began to brood a good deal, she had come to realize that her life had been an empty one—that she had deceived her husband, and that her lover was an insane person. She had lost her appetite, had all sorts of gastric sensations, could not sleep, and lost interest in her household. She had become antagonistic toward her two younger children, feeling that they were the offspring of sin. To her husband and to her lover she would complain of pain in the abdomen and loss of appetitite. She was taken by them to the general medical clinic. After a months' treatment there her condition gradually became worse; she entertained ideas of suicide. After consultation with the family, she was committed to the Kings Park State Hospital for treatment. In this connection it might be interesting to note the reactions of the two men who had accompanied her to the clinic. The husband felt that he could not pay for private hospital residence, and that he was quite willing to have her sent anywhere where she might recover her mental health. Her lover insisted that she be sent to a state hospital. He felt that the state hospital had done him a lot of good, and if it had been good enough for him there was no reason why it was not good enough for the patient. Her sister insisted that Mr. A. had a better idea of the entire situation; as she naively expressed it, "Friends often can do more than one's husband."

Case 3.—F., a girl, aged 17, brought by a worker of the Jewish Council for Women, for psychiatric examination, accompanied by her father, was native born and had a common school education and one year's training in a commercial school. She was always of a lively, cheerful, happy disposition, and well liked by her friends and her teachers. One year before she had suddenly disappeared from home and her father was informed that she had been arrested, having been found in a room with another girl and a young man. She was put on probation and paroled to the custody of her father. She got along fairly well—had met and married a respectable, hard working man five years her senior, who had been informed of her delinquent acts. He married her in spite of this and provided quite satisfactorily for her. One week after her marriage and about two weeks before her visit to the clinic, she had suddenly left her home and remained out late at night, and she became more boisterous and unmanageable. Her father appealed to the neighborhood charity organization, and its worker brought her to the clinic. On examination she was quite playful, fairly distractible and flighty, overactive and quite jovial. She spoke very lightly of her escapade, and bragged about the ease with which she could capture men. It was quite evident we were dealing with the manic phase of a manic-depressive psychosis.

Case 4.—S., a boy, aged 11, brought to the clinic by his father for advice and treatment, was native born, full term, and of normal development. At the age of 8 he had an attack of cerebrospinal meningitis. After his recovery it was found that he was given to frequent spells of irritability and excitement, and had occasional convulsive seizures. He could not be kept at school and could not be managed at home. In a period of two and one-half years the parents had spent $6,000, all their life's savings, in caring for this child. They had visited eminent physicians in New York, Boston and Chicago. For one year he had been receiving treatment from a chiropractor, who had given him electrical treatments and spinal adjustments. The parents stated that all the medical men had advised commitment to a state institution either for epileptic or for feebleminded patients. However, they kept him out of institutions. When their resources became exhausted they brought him to the clinic for treatment. On examination it was found that the patient had residuals of his meningitis, and that he showed definite organic neurologic signs. Psychometric examination gave him a rating of an intelligence quotient of 50 per cent. It was pointed out to the family that it was futile to keep him away from an institution. They finally agreed to apply for institutional care.

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## ABSTRACT OF DISCUSSION

Dr. H. G. Brainerd, Los Angeles: Dr. Sands struck the keynote of things: to have a psychiatric hospital or a psychopathic hospital, if you choose, in connection with the general hospital, where you may make use of the laboratories and the specialists in those hospitals. The place where we get information in regard to these first is in the public schools, and if the public school has a place to which to refer the unusual child, whether it is one with high intelligence and marked behavior abnormalities, or whether it is one who is distinctly deficient, that matter can easily be determined. And the census as taken by the Census Bureau in 1923, as they gathered the facts, showed that there were now in the public schools of the United States, between the ages of 7 and 15, 900,000 defective children. Of those, a few show the behavioristic conditions of the high intelligent quotient, and they furnish our great criminals. The great bulk of them, however, come under the heading of those who furnish our petty criminals. Examination of inmates of poorhouses, of state penitentiaries, of juvenile courts, and of the houses of prostitution, where investigated, show that the greater number of the inmates of those institutions come from this mass of 900,000 that are found in our public schools. That condition can be rectified only when we can have a properly conducted clinic for having these carefully gone through, their physical condition looked after, if possible, if there is something there that can be corrected, as there is in many cases. If we put that child right, we are preventing making a criminal out of him, and if we do not do that, the criminal population will grow with ever increasing and mounting importance.

Dr. William J. Hickson, Chicago: The medical profession is lagging behind the legal profession in this criminologic work. I had the honor of founding and establishing the psychopathic laboratory of the municipal courts in 1914, the first laboratory in this country, or in the world, devoted exclusively to the practical application of psychiatry to law. An environmental clinic for the study of problem children had been established in Chicago in the juvenile court, but we were the first ones to establish a laboratory that handled all classes of cases. In a big court like the Chicago court, where we have specialized branches, we get practically all problem

cases that come into the school, and we get a very large amount of material not only from the children, but also from the parents. When we started to commit cases to the psychopathic hospital, they were turned out wholesale. I think in one year we had a record of twelve murders committed by cases we sent to the psychopathic hospital, which they agreed with us were mental cases. At the present time we are committing 2,000 cases a year as insane from the municipal court, and we rarely have a case in which the staff at the psychopathic hospital is not in agreement with us. We cannot begin to handle all the cases sent to us by the judges. We had been established in Chicago less than a year, when we showed that we had a certain amount of feeblemindedness that was responsible for crime. They gave us a law at once, without any haggling, giving us the power to commit feebleminded directly from the court, and to revise the local law on the treatment of feeblemindedness. I believe the medical profession should become active and get into this field, or else the sociological agencies will take it away from us and we shall entirely lose this field, as we have lost many others, through neglect.

DR. IRVING J. SANDS, Brooklyn: The psychiatric clinic in the general hospital could quite nicely look after the epileptic patients. The vast majority of epileptic patients do not require intramural institutional care. Dr. Gordon recently brought to every one's attention the large number of mental cases that do not require state hospital or asylum treatment. They are cases that primarily present a somatic disease which is complicated by an abnormal mental reaction. They are primarily psychotic and not insane problems. Every physician is also a citizen, and, as such, is duty bound to participate in civic affairs. I do not blame the legal profession for taking matters into its own hand because the medical profession does not take any initiative. In the greatest number of instances, physicians remain dormant even in matters that have a direct bearing on medical matters. They let others look after their interests. When they realize that they have been neglected, they complain. When they will more actively demand what is due them, things will be different.

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# PLAGUE—PAST, PRESENT AND FUTURE *

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In violation of orthodox technic, I have selected the broad, general topic of "Plague—Past, Present, and Future" as the title of a paper that must necessarily be brief. I had fully intended to review the literature of the subject before attempting to present this paper, but circumstances beyond my control made this impossible. It is for this reason that so much of what I shall say here is based on personal contact with the disease and association with other plague workers.

## HISTORY

Plague has a most pernicious past; a present that is bad; and a future that seems to say to civilized man, "Your money or your life." It is for man to say whether, in paying tribute to plague, it shall be a toll of lives or a tax in money, and if the latter, how much shall be paid and how payment shall be made.

Plague is a disease of great antiquity. Papon,[1] who made a very comprehensive study of records of pestilential diseases of various kinds, gives forty-one epidemics of plague as occurring in the course of 1,500 years before the Christian era, mostly among the peoples of the countries bordering on the Mediterranean Sea; 109 during the first 1,500 years of the Christian era, and forty-five from the year 1500 to 1720.

We are all more or less familiar with the history of the epidemic of the fourteenth century, known as the "black death," in which chroniclers of that day boldly assert that from two thirds to three fourths of the world's population died.[2] We read how the disease continued to devastate Europe particularly during the fifteenth, sixteenth, and seventeenth centuries; how the "Great Plague of London" in 1665 killed 70,000 people in a population of less than half a million. We read many other interesting and even terrorizing accounts of the havoc wrought by this disease, and we conclude that hundreds of millions, possibly billions, of human beings have lost their lives from plague—some fifteen millions perhaps in the last three decades, and there were a quarter of a million cases of the disease last year; but the points in the history of the disease to which I wish to invite attention are the following:

1. The early association of rodents with plague.
2. The presence of both pneumonic and bubonic forms of the disease in many epidemics.
3. The periodicity of plague which is unlike that of any other disease.

In the past, apparently, plague has swept over whole continents, dwelt with certain peoples from a few years to a century or more, and then has completely disappeared to return again after a lapse of decades or of centuries; why we do not yet quite know, but there must be a reason.

It is customary for those who write of plague as a general topic to tell just when and where the present pandemic started. After somewhat extensive reading and observation for a quarter of a century, I am almost as confused on these two points as I am on the question of who started the World War. Historians usually start the present pandemic off in Hong Kong in 1894, possibly because Kitasato and Yersin discovered the bacillus in Hong Kong that year. The disease is then traced hither and yon, through India, where it killed perhaps 10,000,000 people in less than twenty years; then to other parts of Asia, including Japan, to the Philippine Islands, Europe, Africa, Australia, Hawaii, and finally to the Western Hemisphere in 1899, and to the United States in 1900.

The behavior of plague reminds me of the days when as a boy I used to chase moles. Sometimes I would see their excavations or tracks, as I called them, which soon ended in a hole in the ground; sometimes I would see evidence of the mole at work; and occasionally I would catch one. Similarly the tracks of plague are for the most part covered, but we are learning to uncover them.

## EPIDEMIOLOGY

I can discuss only very briefly the epidemiology of plague. Among the conditions and factors which are involved in the propagation of this disease, and which should be studied anew in each locality in which plague appears, are these:

1. Susceptible rodents.
2. Ectoparasites of man and animals, particularly fleas, but also lice and bedbugs and possibly other suctorial insects. The seasonal prevalence of the dominant species of fleas and their ability to propagate at low temperatures should be determined.
3. Housing conditions, including types of buildings.
4. Condition and construction of grain warehouses.
5. Condition and construction of houses in which food is stored, manufactured, served or distributed.

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* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Papon, J. P.: De la peste en époques mémorables de ce fleau.

2. Encyclopedia Britannica.

6. Condition and construction of wharves.
7. Condition and construction of stables and barns.
8. Garbage and its disposal.
9. Maritime and, to a less extent, other forms of transportation and travel of persons and of foodstuffs, particularly grain.
10. The human factor in the spread of pneumonic plague.
11. Carriers of plague, rodent and possibly human.
12. Endemic centers of rodent plague.

I shall refer to some of these topics under the head of control measures. Let us note here the fact that the two types of the disease, the bubonic and the pneumonic, generally run true to form, the bubonic spreading through the agency of the flea, the pneumonic spreading by direct intimate contact from person to person. But the epidemics of pneumonic plague are of rodent origin so far as we can tell; and one is justified also, I think, in asking whether it is not some other rodent rather than the rat that is commonly involved in the origin of pneumonic outbreaks. Furthermore, I think we may surmise that, free as modern man is from parasites, plague could not exist in civilized countries were it not for the rodent host. Finally, it may be said that while pneumonic plague has not in recent times been at all comparable to the bubonic type in its ravages, outbreaks are by no means rare, and in Manchuria at least it assumed epidemic proportions.

## BACTERIOLOGY OF PLAGUE

The laboratory diagnosis of plague requires very little equipment and is not difficult; yet the bacteriologist who has never worked with the disease may find himself in most perplexing circumstances if he does not know how to obtain a pure culture of the organism. There will be times also when the bacilli are so few in number, both in man and in the rodent, that they cannot be seen in the tissues and may be obtained only by animal inoculation.

I have never seen a case of pneumonic plague in which I could not make a provisional diagnosis by a simple examination of the sputum stained, preferably with carbolthyonin. Confirmation in animals follows, of course, as a routine procedure.

In the bubonic form of plague in the living patient, an aspirator with a conveniently large needle may be used in an attempt to secure sufficient material to enable one to obtain the organism. This material should be taken from the lymph node showing the greatest amount of inflammatory reaction. I know of no organism that may be obtained from an enlarged node, or from the blood, *of a living human being* that looks like plague but isn't. Conversely, after death, one may find, particularly in rodents but also in human beings, any number of organisms that look like plague, but are not. Fortunately, most of these are not pathogenic, and the few that are may usually be readily distinguished from *B. pestis*. Blood may be taken from a vein in addition to the material from a lymph node. In septicemic plague (during life), blood is naturally about the only source from which one may hope to obtain the organism.

On the death of a patient suspected of having had plague, the organisms should be sought in the enlarged lymph nodes, the spleen and the heart's blood. Relatives and friends will often consent to a small incision for the removal of a lymph node when they would protest against a necropsy. Failing to obtain permission to perform a necropsy or to extract a lymph node, sufficient material for diagnostic purposes may be obtained from the liver by needle puncture and aspiration, provided a large needle is used.

In examining material from rodents, one may select an enlarged node or a bit of spleen. For the examination of large numbers of rodents in which there are no macroscopic or microscopic evidences of plague, I had occasion a few years ago to devise a system of mass inoculation,[3] which has been used very effectively by Williams in New Orleans, and which I believe is common practice in several other laboratories. In mass inoculation, an animal (a guinea-pig) is inoculated with small bits of material from some ten or fifteen spleens, and if plague develops the spleens are then differentiated by inoculating singly. Plague will easily keep in tissue in the icebox for ten days or longer.

Having obtained material suspected of being plague bearing, how is the diagnosis made? Five-tenths cubic centimeter of blood (if blood is used) may be dropped into a flask containing from 50 to 100 c.c. of bouillon made slightly alkaline to litmus, and a like quantity may be used to inoculate a guinea-pig intraperitoneally. Plague, fresh from human or animal tissues, does not always grow well on mediums, and the reaction of the medium is important.

In making a bacteriologic diagnosis of plague from postmortem tissue, either human or animal, I would recommend the following procedures:

First, cultures may be made if one chooses; but, taken after death, cultures will generally be found to be contaminated, and while plague may be obtained in pure culture by plating, I regard plating as inconvenient, somewhat dangerous, and unsatisfactory. I prefer to inoculate three guinea-pigs, one intraperitoneally, one subcutaneously or by scarifying the skin and rubbing on infected material, and one by simply clipping the hair over the abdomen or thigh with a pair of scissors and rubbing the material on the unbroken skin with the flat side of a dull knife or spatula.

The object of the intraperitoneal inoculation is to enable one to make a quick provisional diagnosis. Plague will usually kill intraperitoneally in from twenty-four to forty-eight hours; and though there is sure to be contamination, the gross and microscopic pictures are almost invariably of such a nature as to enable one to make a provisional diagnosis with confidence. In case a guinea-pig inoculated intraperitoneally from postmortem tissue does not die promptly, plague, in my opinion, may be excluded. It is useless to attempt to secure a pure culture of plague from an animal inoculated intraperitoneally with contaminated material.

The pig that has been inoculated subcutaneously or by scarification may die before or after the pig inoculated on the unbroken skin. It will live considerably longer than the pig inoculated intraperitoneally, say from three to five days or, perhaps, even nine days, rarely longer. The lesions found in such an animal will, if plague is present, be quite characteristic, presenting the typical subcutaneous injection of the capillaries, enlarged lymph nodes in the vicinity of the inoculation, usually with edema, and possibly hemorrhages surrounding the node. A small quantity of ropy peritoneal fluid will be found which generally shows characteristic bipolar organisms, usually in pairs and short chains. The spleen will be enlarged, dark in color and will usually contain some whitish necrotic areas, provided the animal has died within from three to five days. If life is prolonged to the eighth or ninth day, the spleen may be small, pink, rather hard in con-

3. Lloyd, B. J., in Annual Report, U. S. Public Health Service, 1914.

sistency, and with many whitish necrotic areas. Organisms are usually plentiful in the tissues of animals that die early, but they may be few if the animal survives seven to ten days or longer. Pure cultures are seldom obtained from pigs inoculated with contaminated material subcutaneously.

But the secret of easily obtaining a pure culture of plague lies in the method of inoculating on the unbroken skin, though I have no quarrel with the man who prefers to do it some other way. This method kills about as often as subcutaneous inoculation, so that one rarely has to make a second inoculation. In temperate climates the heart's blood of a pig that has been inoculated on the unbroken skin will usually give absolutely pure cultures if these are made shortly after the death of the animal. In tropical, and even in temperate, climates I have sometimes been obliged to chloroform the animal before death actually takes place, in order to avoid organisms that might reach the blood by antemortem invasion. A good time to chloroform the animal is when it lies down on its side, as such animals practically always do just before death.

In order to judge of the purity of a culture of plague, it should be planted on agar that contains no water of condensation, and also in bouillon. On a moderately dry agar slant, there will be obtained the small, discrete colonies, having the so-called ground glass appearance. Plague rarely produces cloudiness, so that if the bouillon culture is cloudy to any marked decree, one may feel reasonably sure that the culture is not pure. Occasionally, a diplococcus will be found in association with plague and the bouillon will not be cloudy, but there will usually be a ropy precipitate instead of the whitish granular precipitate of pure plague in the bottom of the tube. The diplococcus, of course, can easily be recognized by staining. Whenever I find my cultures contaminated, I usually return to the unbroken skin inoculation.

Once plague has been obtained in pure culture, its identification is easy, and I shall not pursue this phase of the subject further, except to say that the organism, though usually of typical morphology, is pleomorphic. I recall a necropsy on the first human case of plague that occurred in Guayaquil, Ecuador. Although the gross pathologic findings were as typical as they could possibly be, and although the spleen and lymph nodes were teeming with typical coccus ("doughnut") forms of plague organisms, I was unable to find a single bacillus, although I searched for two hours. On mediums and in animals, the organism at once reverted to the usual forms. I have often seen the "doughnut" form of *B. pestis* in tissues, but such forms have usually been few.

### PROPHYLAXIS (BIOLOGIC)

Attempts to immunize man against plague have not been very satisfactory. In case of known inoculation, as in performing a necropsy, fresh antiplague serum should be given daily until all danger is passed, but this is early treatment rather than prophylaxis. The injection of killed cultures of *B. pestis* produces unquestionably, I think, a certain degree of immunity to plague for a time, but, except under conditions such as may be found in India, for example, I doubt whether the use of such injections is worth while.

### TREATMENT OF PLAGUE

In my humble judgment, there is at present practically only one treatment for plague that merits our serious consideration, and that is the use of *fresh* antiplague serum in large doses. By large doses I mean from 80 to 100 c.c. for an initial adult dose, and it is perhaps better to give it intravenously. Subsequent doses may be somewhat smaller, but not less than 40 c.c., and should be repeated every twelve hours until all danger is passed. It is not necessary to give every dose intravenously, except perhaps in the pneumonic form of the disease.

I am not unmindful of the fact that there are many adverse reports on the serum treatment of plague, including the treatment of cases of the bubonic type, and that there are outstanding men in the United States who do not regard this form of treatment very highly. However, there is much in the literature that is favorable, and I sometimes wonder whether some of the poor results obtained may not have been due to the use of serum that has been kept too long and perhaps at a too high temperature.

In the years 1908 and 1909 there were treated by myself and under my supervision (except for the cases that occurred in November and December, 1909) 1,491 cases of bubonic plague in Guayaquil, Ecuador. At the time these treatments were given, they were administered with the idea of saving the lives of the patients rather than as a test of the efficacy of antiplague serum. I checked up as best I could, with the aid of several colleagues, the results of the administration of the serum. We concluded from our record that: (1) patients with bubonic plague who did not receive serum during those particular years gave a death rate of approximately 60 per cent.; (2) the death rate among those that received serum, including some that were almost moribund, was about 33 per cent., and (3) where treatment could be given within from twenty-four to thirty-six hours of the onset, the mortality might be reduced to 18 or 20 per cent. I do not at this time have the records of those that were treated with serum and those that were not; but during the first year (1908) there were at least 200 out of 588 patients that did not receive serum because we did not have it. The mortality for that year was 46.6 per cent. During 1909 there occurred 903 cases with 320 deaths, a mortality of 35.44 per cent. There were very few patients in 1909 that did not receive serum, but not all of them got it early. From Jan. 1, 1909, to Dec. 31, 1923, there were treated in the plague hospital in Guayaquil 6,213 cases of plague with 2,346 deaths, a mortality of 37.36 per cent. I judge that 90 per cent. of these patients received serum, but many of them, of course, did not receive it early in the course of the disease.

In 1916 there were outbreaks of plague in Ambato and Alausi, Ecuador. Of thirty-six patients treated in the hospital at Ambato, who presumably received serum, thirteen died, a mortality of 36.11 per cent. There were five deaths and one recovery among the known cases that were not treated at the hospital. In Alausi, during the same year, there were treated in the hospital, presumably with serum, sixty-nine patients with plague, with eight deaths, a mortality of 11.59 per cent.; while of the ninety-eight known cases in which the patients did not go to the hospital, all died. How many cases there were that escaped detection is not known.[4]

The foregoing data are taken from the annual reports of the department of health of Ecuador for the years 1910 to 1923, inclusive. While these reports do not segregate patients with plague that were treated with

4. Informe del Director General de Sanidad Publica Guayaquil, Ecuador, 1916.

serum and those that were not so treated, it is everywhere intimated that serum was used wherever it was possible to reach the patient. Recovery of one case of proved pneumonic plague is reported and is attributed to the use of large doses of serum intravenously.[5]

As a further evidence of the effect of serum in the treatment of plague, I recall several instances of plague in pregnant women who were successfully treated with serum and who did not abort or miscarry. I do not recall any case of survival of the fetus in a plague-stricken mother in whom serum was not used. There was one case under my care of a woman who gave birth to a normal healthy baby during the course of the disease. This baby was born in the hospital and nursed by the mother without any inconvenience and without developing plague.

On one occasion I received a consignment of serum that had been kept for about six months on the isthmus, under what conditions I do not know. I questioned the advisability of using this serum when it arrived, but as serum was scarce and somewhat hard to obtain at the time in quantities required, I decided to use it. After losing several patients, who I thought should have recovered, I discontinued its use and returned the quantity remaining to the isthmus, saying that it was of no value.

I know of no experiments that have been performed, designed to determine how long antiplague serum will retain its potency at low temperatures. When the Pasteur Institute began to put out antiplague serum, its literature contained the statement that liquid serum should not be used after one year, but that dried serum would retain its potency for two or three years, and that the latter should not be given intravenously.

One final word with regard to antiplague serum: one should insist that his dealer tell when the serum was drawn and use the most recently drawn serum obtainable.

### QUARANTINE MEASURES; PLAGUE ON VESSELS

Manifestly, it is impossible in a brief paper such as this to treat extensively of quarantine measures. In pneumonic outbreaks it is, of course, necessary to restrict the movements of persons who may have been exposed to the disease. Wherever rodent infection exists, it is important that every effort be made to prevent this infection from being transported. In the United States, rats have shown but little tendency to travel by rail in sufficient numbers to spread bubonic plague, but the constant transportation of rats on vessels in international commerce has produced a widespread distribution of this disease. Perhaps it is not too much to say that 90 per cent. of the vessels that arrive at ports in the United States from foreign countries, if we may except vessels from Canadian ports, have within the sixty days immediately preceding their arrival touched one or more plague-infected ports. Rat plague has been detected on hundreds of vessels during the last thirty years and probably has escaped detection on a thousand others. Grain cargo is, I think, unquestionably the greatest factor in the transportation of rats, and incidentally of plague, from one country to another.

We are all familiar with the efforts made by health authorities to kill rats on board vessels calling at infected ports. Perhaps the greatest improvement that could be made in our present maritime system would be to induce builders of vessels to construct them as nearly rat proof as possible. Certainly, there is great room for improvement in this respect on the average vessel.

### EXTERMINATION OF SUSCEPTIBLE RODENTS OTHER THAN RATS

In the United States, we have an endemic center of plague in the ground squirrels of California. For years, the Public Health Service and the people of California have conducted strenuous campaigns against these squirrels without either exterminating the squirrels or eradicating plague. If the land appropriated by these squirrels ever becomes valuable enough to be cultivated intensively, the human population on it may increase sufficiently to exterminate the squirrel, or, maybe, lethal gases may be developed that will enable us to kill them all. We should at least maintain squirrel-free zones around centers of population to prevent squirrels and rats from intermingling.

### RAT-PROOFING AND RAT EXTERMINATION

I am tempted to say that permanent rat proofing is almost the only effective measure against plague in cities of any considerable size. I am speaking now of the task of eradicating plague permanently. The most efficient and at the same time the most economic rat-proofing campaign that could be conducted against plague is one that begins from twenty-five to fifty years prior to the advent of the disease. By this statement I mean that it is relatively inexpensive to construct buildings of all kinds in such a manner as to favor a minimum development of rat population, provided this is undertaken when the buildings are being erected. It is usually quite an expensive procedure to rat-proof buildings after they are up. There are two main principles to be observed in the rat-proofing of structures: In the case of frame buildings, such as residences, these should be from 18 to 24 inches off the ground, with skirted underpinning in cold climates, and free underpinning in warm climates. This is the so-called rat-proofing by elevation. If there is a basement, both walls and floors should be of concrete of sufficient thickness to stop the rat. In addition, all "dead" or hollow spaces of walls or in ceilings should be eliminated. The second principle is that of requiring concrete retaining walls and concrete ground floors, basement and basement walls in all buildings that are not elevated as described.

### FUTURE OF PLAGUE

Present indications are that plague will remain a menace to the inhabitants of this and other countries indefinitely, or, if you ask me to express this in time, I would say for many decades, perhaps for several centuries. Barring the possibility of a serious epidemic of pneumonic plague, which I hope is exceedingly remote, I do not believe that plague will ever be allowed to become a serious factor in our morbidity and mortality rates in the United States. No doubt, however, it will continue to appear from time to time and probably will, within the next fifty to a hundred years, be found in many places both here and abroad where it is not now known to exist.

Intensive studies might well be made with a view to devising a system which would enable us to reduce the expenditures of plague campaigns to a minimum and which would at the same time produce a maximum of benefit. Our seaports particularly should all begin to require rat-proof construction of all new buildings, as has been done for years in San Francisco and a few other cities.

5. Informe del Director General de Sanidad Publica Guayaquil Ecuador, 1914, p. 29.

## ABSTRACT OF DISCUSSION

DR. F. M. JOHNS, New Orleans: Any one who has followed the history of plague will be reminded that in a seaport city it is simply a question of time, it may be ten or fifty years, when it will break out; and it is wise to keep in mind the progress of measures directed against the disease. The only question that probably requires some comment in Dr. Lloyd's paper is the treatment of plague with serum. I think I can agree with him that in the review of the literature the only treatment of bubonic plague is with the antiplague serum. The result of serum in cases that are diagnosed quickly is probably just as spectacular as with any other serum treatment. I see that Dr. Seemann is present and would like to have him discuss the cases he treated in New Orleans. We had several patients with temperatures of 105 or 106 F. and almost moribund; serum was administered and in a few hours the temperature dropped and the patients made uneventful recoveries. Naturally, the infection varies. Some epidemics seem to have a more virulent type of organism, but I am satisfied in my own mind that the majority of cases, if treated promptly with fresh serum, would be greatly benefited. The obtaining of serum is also a matter of great importance. The epidemic usually breaks out in a community with probably no provisions having been made for the obtaining of serum. The variety administered is probably several years old. I should like to ask Dr. Lloyd his opinion of the various forms of serum used, also the keeping qualities of serum; in other words, some serums disintegrate in a few months under adverse conditions and I would ask whether this is not responsible for most of the lack of effect reported from the use of serum.

DR. W. H. SEEMANN, New Orleans: I am delighted to hear an authority with the large experience of Dr. Lloyd come to the defense of serum in plague. Average textbooks refer to plague treatment with serum almost with derision, and yet I know of no agent more unjustly maligned than antiplague serum. We have had a good deal of experience with bubonic plague in New Orleans. We at first got serum from the Pasteur Institute. It was old, as Dr. Johns referred to in a general way, and it was not made with the specific strain of antigen. In other words, it did not have a specificity against our type of organisms. We subsequently injected two horses ourselves. We used the actual bacteria from patients and rats right in the city, and the use of this serum when finished gave results strikingly different from that we have obtained before, proving that if we want to get the maximum results of serum we must try to get the local specific antigen, inoculate a horse, and produce specific antibodies. I believe I have given the largest doses of serum of any man who has treated plague. I never gave less than 150 or 160 c.c., and I go further than Dr. Lloyd and repeat in from six to eight hours with similar doses. I had one man given 160 c.c. intravenously, and the temperature went from 106.5 F. to normal next morning. It is my belief that there is no difference between pneumonic plague and bubonic plague so far as the causative agent is concerned. I have seen two cases of plague in which there was severe pneumonia, and recently I saw a case of bronchopneumonia. The sputum was literally teeming with plague bacilli. In each one we were able to get results.

DR. MATTHIAS NICOLL, JR., Albany, N. Y.: I know very little about plague; but a few days ago Dr. Wu, in charge of the federal control of plague in Manchuria as a representative of the Chinese government, expressed the opinion that the use of the serum was in his experience of very doubtful value.

DR. SAMUEL B. GRUBBS, New York: Plague is our most important problem, not only because the disease is advancing but because present methods to exclude it are so expensive. We are therefore trying to improve these methods and need your advice and help. We are working on two distinct lines, one the practical which is largely rat catching; and the other the investigation of plague epidemiology, especially the unknown details of its transmission by rats and fleas. We find interesting questions that we hope some day to answer; for example, why the North Atlantic coast has never been infected, although ships come there from all over the world and it should naturally have been infected long ago. Plague has infected several United States ports and exists in three of them at present, but North Atlantic ports have remained free. We cannot give the entire credit to superior quarantine; it is more probable that certain territory is noninfectable or nearly so. We want to learn what makes a port infectable. It may be possible to establish a rat or rat-flea index similar to the yellow fever *Stegomyia* index that will allow us to classify ports according to their infectability and to base our quarantine on this classification. Fumigation of vessels is now our chief defense, and the requirements are the same for all ports regardless of their degree of infectability. In New York we have constantly tried to check our fumigation by trapping and observation. We have learned that the most painstaking fumigation rarely fails to leave behind a few rats, sometimes a considerable number. With favorable conditions this means an increase of the original number within a few months. We have therefore tried to rat-proof ships, which means the elimination or blocking off of all places where rats can hide, the protection from rats of food supplies, and the blocking of rat runs. We are rat-proofing several ships at present and find that the rat population decreases as the rat-proofing progresses.

DR. E. R. HAYHURST, Columbus, Ohio: I am interested in the possible historical relationship of plagues. In Ohio there was probably as great development of the mound builders as any place in the United States. It has always been a mystery why this people disappeared so suddenly. Sudden disappearance of peoples indicates superficial burial, if any burial at all. The thought occurred to some of us who are members of the Ohio Archeological and Historical Association that the reason might possibly have been the great plague epidemic of the thirteenth century (1345-1350), as recorded in Europe, because there is good evidence, from mounds of these people, that they were living well within the last thousand years.

DR. B. J. LLOYD, Washington, D. C.: Answering Dr. Grubbs, I may say that the subject of rat-proofing vessels is treated of in the part of the paper which I did not read. To Dr. Nichols I may say that I did not know that Dr. Wu was as pessimistic about the serum treatment of plague as his latest statement would indicate. I wonder whether he had in mind pneumonic plague rather than bubonic. I know that there are outstanding men who do not regard the use of antiplague serum very highly even in the bubonic form of this disease, but I cannot concur in that opinion. I do not know how long antiplague serum will keep at low temperatures. I wrote to a friend of mine, who is working in the Pasteur Institute, but he states that they do not have the information. During the work in Guayaquil, I received a consignment of antiplague serum from Dr. Perry, who was then stationed on the Isthmus of Panama. It had been kept six months; under what conditions, I do not know. Its appearance made me think that it was of questionable value; but, as serum was scarce, I decided to use it. After losing several patients who I thought should have recovered, I discontinued its use and sent the remainder back to Dr. Perry. The serum used at Guayaquil, Ecuador, I purchased from the Pasteur Institute, Paris, from an institution in Berne, Switzerland, and from another in Buenos Aires. Purchases of from 10,000 to 20,000 20 c.c. bottles were made frequently, the serum being requested by cable and arriving fresh. We could tell from the markings when the serum was drawn. I have found difficulty in obtaining serum in the United States that was bright and clear, and I do not know of any serum manufactured in the United States since 1923. When buying serum, I think it is well to insist that the dealer state when the serum was drawn. I prefer serum as fresh as can be had. I think it is quite possible, as suggested by Dr. Johns and Dr. Seemann, that a more potent serum can be made from the particular strain of plague present in a given vicinity, although serum when so made is of course used fresh, which is a decided advantage. With regard to the identity of the organism which causes bubonic plague and that which causes pneumonic plague, I think there can be no reasonable question.

# THE DIAGNOSIS OF BLINDNESS*

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A diagnosis is a decision, to be reached by careful consideration of all obtainable evidence. In a military commander or an executive, indecision may be more disastrous than a wrong decision. For a physician or surgeon, it may be quite as serious in its consequences. In cases of blindness, a decision on the extent or the cause of blindness may be the only professional service we can render. Every attempt to assist, to train, to compensate or to make economic provision for the blind renders the diagnosis of blindness more important.

All human decisions are liable to error, but this does not make decision less important. Through ignorance of facts, distortion of them, prejudice, poor judgment, failure properly to appraise the relative value of evidence, wrong conclusions may be reached. This may be the case in military affairs or in executive business, with judges as to points of law, or juries in regard to matters of fact. But this does not relieve officers or executives, judges or juries from doing their best to reach a decision on the situation or the facts presented. It is equally the duty of the physician to reach a diagnosis, and especially of the ophthalmologist to reach a decision—a diagnosis—regarding blindness.

If he is too anxious to avoid criticism for apparent dogmatism, to make clear what he really believes is the truth, his statement may be of no service to truth, justice or science. It is enough in any case to preface his conclusions by the simple words, "I think," or "It is my conclusion," "I believe that this person or this eye is, or is not, blind; or that the blindness is, or is not, from this or that particular cause." To decline to reach and state a definite conclusion as to the existence, degree and etiology of blindness is, in most cases, equivalent to a confession of incompetence, laziness, or indifference to the question presented.

No opinion should be rendered regarding a case of blindness without seeking out and considering all the evidence bearing on it. But, having done this, it is a shirking of responsibility for any one holding himself before the community as an expert as to diseases and defects of the eye and vision, to refuse to give a diagnosis as to blindness, or to state it in such doubtful terms as to render that diagnosis worthless.

It may be felt that, vision being subjective, no one but the individual himself can tell whether or not he is blind. It is equally true that the individual must generally know better than any one else whether he has committed a murder or theft, or planned and assisted in any crime, or really is justly entitled to some piece of property he has claimed. But as in any of those cases, the interest of the claimant in his alleged blindness often renders his testimony worthless. If his testimony is admitted, it gains significance and weight only as it is corroborated by collateral evidence over which the claimant's self interest has no vitiating influence. To elicit, weigh and present such unbiased evidence, and to estimate its value; in other words, to bring out and estimate the value of objective evidence of blindness is the business of the ophthalmologist.

* Read before the Section on Ophthalmology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints.

The diagnosis should answer these questions:

**Is there blindness present?**
**How great is the impairment of sight?**
**What is the cause of it?**

With what certainty and accuracy can these be answered by a careful and complete objective examination? Let us admit that the diagnosis of blindness is easiest, most certain and most exact when the cooperation of the patient brings to our assistance all the subjective evidence regarding vision. But when the patient or claimant will not so cooperate, will not give such assistance, and by refusal to work actively against what he conceives to be his interest, either by a general attitude of obstruction, or direct falsehood, would prevent a correct or accurate diagnosis, what may we do to bring out the facts by complete and conscientious objective examination?

The answer to this question determines our ability to assist the community in excluding from certain occupations or branches of service those whose defective sight would endanger themselves, or impair their efficiency in those lines of service. It becomes more important with all legislation bearing on industrial insurance, compensation for injury, assistance, special privileges or benefit for blindness—directions in which the recognition of social responsibility has developed very rapidly of late. If we cannot render the objective diagnosis of blindness reliable, within practical limits, such legislation, custom or sentiment as has shown this development merely places the honest, industrious, kindly part of the community at the mercy of the morbid whims, cupidity, falsehood and selfishness of those whose extinction would benefit the race. Progress in the direction of benevolence, charity, public security or justice with regard to blindness rests today on its objective diagnosis.

## SOURCES OF EVIDENCE

The history of the individual case, even the history of subjective phenomena, may have all the significance and value of objective evidence. Thus, a history of recent sudden blindness, perhaps following accident, when examination shows old scars of the cornea or choroid, or vitreous opacity, either congenital or manifestly of long standing, is absolute evidence of falsehood, either intentional or from ignorance, that properly discredits all evidence from such a source. On the other hand, the history of sudden blindness in homonymous lateral half fields, supported by corroborative limitations of the fields, and other evidences of intracranial lesions, becomes highly valuable and significant. Every cause of blindness that we know links up with an appropriate and suggestive case history. Allowing for the fact that no two cases are exactly alike in all particulars, it is next to impossible for any patient or claimant to construct a false history of his troubles that will pass critical consideration from an expert, unless he has the assistance of expert knowledge and experience that rarely lends itself to the purposes of the criminal. The case history carefully taken and considered, repeated if necessary and made the basis of cross examination, will, in the great majority of cases, reveal how much or how little credence can be given to the statement of the patient or claimant, and suggest in what directions objective examinations should be pushed to discover the truth.

The external examination of the eye in all cases of alleged blindness, complete or partial, should be carefully planned, prolonged and thorough. Every objec-

tive sign of previous disease should be noted and carefully considered with reference to its developmental or pathologic possibilities, the suggestions it makes of other lines of investigation, and the necessary or possible influence it may exert on visual acuity. A scar not perceptible to casual inspection may greatly impair visual acuity by the astigmatism, regular or irregular, that it causes. Only by eliminating or properly estimating all other factors causing impairment of vision can the right understanding of visual impairment by any one condition be determined. The objective diagnosis of blindness is the summing up of all ophthalmic diagnosis, in which common and generally unimportant conditions cannot be neglected without introducing sources of serious error and uncertainty.

The ophthalmoscopic examination of the eye contributes equally to our knowledge of pathologic conditions present, and in addition it furnishes a test of the influence such conditions exert to impair sight in the particular eye under examination, by impairing the transmission of light through the refractive media and surfaces of the eye. The light coming out of the eye from behind the retina must pass through exactly the same physical conditions, to reach the eye of the observer, as light encounters after entering the eye from the external world, before it reaches the percipient elements of the retina of the patient. By familiarity with the details of the ocular fundus and the fundus reflex when fundus details are not visible, we secure at the back of the eye a series of test objects, the visibility of which can be compared with the visibility of the test letters and figures we use in everyday tests for visual acuity. By comparing visual acuity, tested in the ordinary way, in patients giving full cooperation in such tests, with the ophthalmoscopic visibility of the fundus, we can construct an approximate scale of fundus visibility that will correspond roughly to the visual acuity scale that we work with in general ocular examinations. This scale can be applied largely without the patient's cooperation, being in effect an objective method of examination.

In ophthalmoscopic estimation of visual impairment, skiascopy, from near the point of reversal, gives important evidence as to complete transparence of the ocular media and the share that ametropia, especially irregular astigmia, may have in producing visual impairment. Two eyes may appear to present about the same amount of opacity in the dioptric media; but in one skiascopy will be found impossible and in the other easy. It is safe to infer from the test that in the first visual acuity is greatly affected by the opacity, and that in the other it is not.

Each of us has developed some such scale for judging the effect of lesions impairing the transmission of light through the dioptric media, on which he bases his judgment as to the amount of visual impairment to be expected by a certain haziness of the fundus details. The noting as exactly as possible such interference with seeing the disk, central vessels, primary and secondary branches and smaller arterial and venous twigs, pigment stippling, reflexes, etc., and comparing such notes with those of visual acuity in cooperating patients, will give each observer a better grasp of ophthalmoscopic diagnosis and will indicate just what details should be looked for and what significance can be attached to their observed visibility. From the series of cases given below of opacity presented in the cornea, lens or vitreous, in each an attempt has been made to construct the outline of a scale of objective evidence of visual impairment. If a number of ophthalmologists will gather and compare such data, it will add to the value of what each of us has already learned in this direction, by his own examinations of patients.

The method pursued for estimating the effects of opacity and irregular refraction in the refracting media may be modified for application to all observed deviations of the ocular tissues from their normals. We can record the inflammatory and degenerative changes in the retina, choroid and optic disk with the visual impairment associated in each case in which the patient cooperates in giving his exact vision; and from such records we might construct a practical scale of probable impairments of vision, for the different visible ophthalmoscopic changes that may be observed.

Along these lines we must seek answers to such questions as: What visual disturbance can be expected with simple detachment of the retina? What from a well marked glaucoma cup? How much importance can be attached to whiteness of the optic disk, as evidence of visual impairment by optic atrophy? To what extent do pigment migrations imply destruction of visual function?

When it comes to assessing the visual damage due to fundus lesions, a damage arising from structural and functional impairment of the tissues inspected, we are on more uncertain ground. But when these furnish the best evidence obtainable, apart from the claimant's statements of what he sees, every effort should be made to ascertain the probable significance of what we can see.

Certain definite and measurable lesions, such as detachment of the retina, have a positive, although not entirely exact influence, on visual acuity. Series of two of these, detachment of the retina and the cupping of the optic disk in chronic glaucoma, are included in cases grouped below for study. Certain less conspicuous changes in the macula, likely to exist with circinate retinitis, are also important evidences of impaired vision.

In the appended series of retinal and choroidal lesions, the records regarding macular conditions have been emphasized by always including them in the case abstracts, which seem to show their importance. But wide acquaintance with anomalous appearances of the macula compatible with normal vision is essential to the estimation of the visual significance of what is there seen.

Exact observations as to color are of great importance for the estimation of visual capacity in the retina and optic nerve. The cases of optic atrophy are interesting as regards color significance. In this connection, careful observation of the finer or nutrient vessels is of paramount importance, as in the deductions to be made from swelling of the optic nerve head. This is possible to us as regards the optic nerve, with carefully chosen light for ophthalmoscopy, and is probably equally available for the retina, when red-free light is systematically applied for that purpose. But it must be borne in mind that the exact color of the light used has enormous importance as influencing the appearances to be observed in all such examinations. The colors employed must be standardized before the significance of what is noted can be properly estimated.

The application of observations made with the corneal microscope promises a great deal of help in the

diagnosis of blindness in the future. But a great many more of these observations must be made and carefully compared with corrected visual acuity before due importance can be attached to such findings. An instance of possible advances in this direction is the case of tuberculous uveitis cited in connection with corneal opacities (Case 22).

The testing of pupil reflexes and ocular movements to avoid diplopia may give extremely important evidence as to blindness that may be present. It is fairly established that the direct pupil reflex to light implies a reflex arc, stretching from the retina to the primary visual centers along the afferent tracts, sufficiently effective to perform its function in a way that disproves complete blindness. Even a moderate direct pupil reflex is evidence of some vision, unless the visual tracts are interrupted beyond the primary centers by lesions affecting the optic radiations or visual cortex.

The evidence obtained by the direct light reflex is confirmed by the consensual light reflex in all cases of claimed monocular blindness. If the afferent tract is interrupted in front of the primary visual centers, the consensual light reflex is also lost for light thrown on the blind eye. But for loss of function behind the primary centers, we have homonymous hemianopia and the hemianopic pupil inaction; so that the hemianopic pupil reaction has great practical importance in the diagnosis of blindness, as well as in the localization of lesions affecting the visual tract.

The attempts made by Hess and others to study the hemianopic pupil reaction by light impressions sharply localized on small parts of the retina within the so-called pupillomotor area have led to confusion and doubt as to the diagnostic value of this reaction. The method described by Fisher,[1] if carefully followed, seems, however, to give definite and positive clinical data. If, with positive direct or consensual clinical reaction of the pupil to light, such reaction is found to be about the same whether the light falls chiefly on the right or on the left half of the retina, we are justified in concluding that the visual pathways are not interrupted behind the primary centers—that the person giving such reactions has light perception, and that if the reactions are good he has good light perception.

The consensual reaction is of especial importance when disease in one eye has bound down the pupil; and, it is asserted, has also caused blindness in that eye, the iris of the other remaining free to react under the influence of light. It is in connection with the pupil reactions that the claimant's statements with regard to the circumstances and nature of the disability claimed become of great importance. In the cases cited below, the condition of the pupil reflex has often not been noted on the case records, and the data here quoted are confined strictly to those found in the record. In general, no record regarding the pupil might be taken to mean that the reflexes were normal. But this is not satisfactory evidence when the pupil reflex may be the deciding factor as to whether blindness claimed is or is not really present.

It must be understood that in the foregoing discussion the ordinary reflexes of the pupil to light are alone referred to—those that take place within a very few seconds after exposure to the light stimulus. There is also a slow reaction of the pupil to strong light, and especially to direct sunlight, to which attention was called by the late George C. Harlan,[2] in which the pupil contracts slowly for several minutes. This form of reaction is not well understood and apparently has not been generally studied. It seems not dependent on the generally recognized pupillary reflex arc.

1. Fisher, J. H.: Tr. Ophth. Soc. U. K. 41:7.

### OCULAR MOVEMENTS TO AVOID DIPLOPIA

If vision is good in both eyes, and the faculty of binocular fusion is well developed, certain movements of the eye to avoid diplopia when a prism is placed before it, or withdrawn, are quite involuntary, and their absence may be taken as good evidence that binocular vision is not present. On the other hand, when these movements are elicited by placing a prism before one eye and removing it, we have proof positive that binocular vision is present.

Of course, a patient may have good vision in each eye and yet have no power of binocular vision or to perceive binocular diplopia, and such a person will give no ocular movements in response to such use of prisms; but instances of such lack of binocular vision and diplopia are relatively rare, and detract little from the value of this test in the diagnosis of blindness. If the antidiplopic movements of the eye are elicited by this use of prisms, especially on repeated trials, it is proof positive that blindness of either eye is not present.

It is quite possible by careful selection of test objects to be presented to the eyes, and the background against which they are to be seen, to form with this test an approximate estimate of the degree of visual acuity present. But methods of making this a quantitative visual test should be worked out by careful experiment.

### CASES OF BLINDNESS

The following cases are cited by giving the vision present, with a few of the leading objective conditions noted in each, such as are of most value for the objective diagnosis of blindness. The vision is given in the terms originally used in the case records, although in computing averages, as for lens opacities of different degrees, the expressions noted have been reduced to equivalent decimals, for convenience in addition and division. They are the methods of noting visual acuity in common use.

The designation by distance at which fingers can be counted ought to be discarded; and of late years I have discarded it. It depends largely on the background against which the fingers are held. The regular visual tests, the broken ring, the incomplete square, the cross-point test of Wolfberg, or Ewing's broken line test can be used for the degrees of visual impairment commonly tested by counting fingers; and they give more accurate results. Roughly speaking, counting fingers is about equal to, or a little better than, recognition of 200 foot letters or tests, at an equal distance.

Only such cases are cited here as have been examined in private practice, in which the patients have given full cooperation to bring out their best vision, and have been under observation long enough to eliminate chances of error from a single examination. The facts cited are often those observed at one time in the prolonged course of a case in which many changes in vision and objective symptoms were observed. They have all been cases in which vision was reduced to about one tenth or less, cases approaching or attaining the condition of "industrial blindness."

2. Harlan, G. C.: Tr. Am. Ophth. Soc. 7:671, 1894-1896.

### OPACITIES OF THE MEDIA

This is the class of cases in which the visual impairment is presumably due to interference with the transmission of light to the percipient layer of the retina; and so far as possible cases in which blindness or impairment of vision was largely due to other causes have been excluded. In these cases the transmission of light from the ocular fundus to the observer's eye furnishes an objective scale, with which the transmission of light from without inward may be deduced with probability and some exactness.

These cases are here separated into three groups; opacities of the crystalline lens, of the cornea and of the vitreous.

### LENS OPACITIES

Of opacities of the lens, 100 cases were taken, including 113 eyes. When the visual acuity is reduced in such cases to one tenth or less, the opacity generally affects the whole area of the pupil for light that reaches the macula through it from any external object. In nuclear cataract the periphery of the retina may receive light coming obliquely through relatively clear cortex, but this does not greatly affect the visual acuity as usually measured at the macula. In many of the cases the visual acuity was known before the lens opacity developed, and in some the vision afterward obtained by removal of the cataract is given. The visual impairment is thus definitely correlated with the observed objective symptoms.

Of these 113 eyes, eight are recorded as having no light perception. Presumably conditions other than lens opacity had arisen after cataract formation in these eyes to render the blindness absolute. But where no indication could be found as to what such condition might be, the case was included for comparison with cases of less extreme blindness, and of similar blindness from other causes. Also because the patient's response of "no perception of light" depends a good deal on his mentality. We constantly meet patients who claim to perceive light, although the most careful testing brings out no evidence to support their claim; and, on the other hand, there are cases recorded as having "no light perception" in which later removal of extensive vitreous hemorrhage, or a black cataract, has been followed by return of quite useful vision.

Patient 14 had light perception but nothing more. These represent the class of mature dense cataracts. Patient 23 could recognize "moving shadows"; that is, they could tell in what direction the shadows moved across the field of vision.

Twenty were able to "count fingers" at distances ranging from 3 inches to 4 feet, the average being 15½ inches; ten had vision ranging from 1/500 to 1/60, averaging 0.01; nineteen had vision ranging from 1/50 to 1/25, averaging 0.031; twelve had vision ranging from 1/20 to 7/100, averaging 0.058; nine had vision ranging from 8/100 to 10/100, averaging 0.085.

### CORNEAL OPACITIES

Of the corneal opacities there were seventy cases, eighty eyes. Among these five had no light perception, which had been lost by the disease or injury causing the corneal opacity; nineteen had only light perception; seven could "see moving shadows"; nine could count fingers at distances varying from 6 inches to 4 feet, and averaging 15$\frac{3}{10}$ inches; twelve had vision ranging from 1/500 to 1/60, averaging 0.009; thirteen had vision ranging from 1/50 to 1/25, averaging 0.026; eight had vision ranging from 1/20 to 1/15, averaging 0.052; seven had vision ranging from 8/100 to 10/100, averaging 0.088.

### VITREOUS OPACITIES

There were forty-one cases of vitreous opacities, forty-four eyes. Of these, three had no light perception; four had only light perception; eight could see moving shadows; seven could count fingers at from 7 to 18 inches, averaging 10$\frac{7}{10}$ inches; four had vision of from 1/500 to 1/60, averaging 0.009; nine had vision of from 1/50 to 1/22, with an average of 0.034; two had vision of from 1/20 to 1/15, averaging 0.058; and five had vision of from 8/100 to 13/100, averaging 0.1.

### RELATION OF VISION TO VISIBILITY OF THE FUNDUS

In these 211 cases of opacity of the media we find 205 eyes with regard to which the veiling of the fundus is recorded in definite terms that can be arranged under the following heads: no fundus reflex; moderate fundus reflex; good fundus reflex; details of the fundus dimly seen and details well seen. As to the visual acuity that these grades of visibility of the fundus may imply, we gather the following statistics:

No fundus reflex was visible in ninety-one eyes. Of these, twelve had no perception of light, thirty-three had only light perception, thirty could see moving shadows, ten could count fingers, and six had vision recorded as ranging from 0.001 to 0.04 and averaging 0.015.

There was a moderate fundus reflex in fifty-one eyes. Of these, ten had only light perception, four saw moving shadows, thirteen could count fingers, and twenty-four had vision of from 1/500 to 8/100.

There was a good fundus reflex, but no fundus details were visible, in twenty-nine eyes. Of these, six could only count fingers, while in twenty-three the vision ranged from 1/200 to 8/100.

Details of the fundus were dimly seen in thirty-four eyes. Of these, four could see only moving shadows and five could count fingers, while in twenty-five vision ranged from 3/500 to 1/10.

Details of the fundus were clearly seen in three cases. All of these patients had vision of from 4/100 to 10/100.

### FUNDUS LESIONS

In general, it is scarcely possible to form a scale of the influence of visible lesions of the ocular fundus on the acuity of vision. However, there are three conditions in which the ophthalmoscopic appearances give some indications for quantitative grading of the impairment of vision they cause. These are: detachment of the retina, glaucoma, and atrophy of the optic nerve.

### DETACHMENT OF RETINA

Among thirty-three cases of detached retina, we find but one eye that had no light perception, and in this case the detachment was traumatic. There were four eyes in which vision was reduced to light perception, and twelve in which it was only moving shadows. In seven eyes, it was recorded as counting fingers at from 6 inches to 4 feet, and in nine it varied from 1/100 to 4/60.

### GLAUCOMA

Of forty-three cases of glaucoma, fifty-four eyes, there were twenty-two cases in which the media were so hazy that the fundus could not be seen, but in all the others, twenty-one eyes, glaucoma cupping was present.

In sixteen cases there was no light perception. In five cases, six eyes, vision was reduced to light perception.

In ten cases, twelve eyes, moving shadows were perceived in some part of the field. In three cases, three eyes, fingers were counted at from 6 inches to 2 feet.

In nine cases, thirteen eyes, vision of from 1/100 to 1/10 remained in some part of the visual field.

### OPTIC NERVE ATROPHY

Of atrophy of the optic nerve, there were thirty-two cases, forty-one eyes. Among these, in thirteen eyes of eleven patients there was no perception of light. In three eyes of three patients, there was only light perception. One eye saw only moving shadows. Four eyes in as many patients could count fingers. In the twenty eyes remaining, vision ranged from 1/125 to 9/100. In four of these eyes with some vision, there were still some swelling, haze and vascularity of remaining neuritis. In all the others, the nutrient vessels of the disk were almost or quite lacking, and gray or "paper white."

### RETINAL DISEASE

In forty-three cases of retinal disease other than retinal detachment, revealed by ophthalmoscopy, the lesions vary so widely that no general grouping of similar conditions would be profitable, although the study of individual conditions is instructive. It should be noted, however, that in only three of the eyes was light perception lacking, and in all of these there was general disease of the retina, one of general degeneration, probably cystic, one of atrophy and one of neuro-epithelioma. Of the thirty-eight eyes in which vision ranged from 1/240 to 1/10, lesions of the macula are noted in fifteen. Any examination for causes and degree of blindness ought to include careful ophthalmoscopic examination of the macula.

### CHOROIDAL DISEASE, DEGENERATION AND ATROPHY

In the fifty-one cases, fifty-nine eyes, given above as suffering chiefly from choroidal disease, the involvement of the macula is still more important. In twenty-three cases, twenty-five eyes, the involvement of the macular region of the choroid is especially noted; in the three eyes that had no light perception, coloboma of the choroid (probably with some other malformation). Sarcoma and universal sclerosis of the choroidal vessels following injury are mentioned.

### PANOPHTHALMITIS AND SHRUNKEN GLOBE

In panophthalmitis in eleven eyes, the best vision was counting fingers at 30 inches, and six eyes had no light perception.

### RETROBULBAR NEURITIS; TOBACCO AMBLYOPIA

In nerve lesions, retrobulbar neuritis and tobacco amblyopia, the poorest vision was perception of moving shadows; and this was an acute condition, followed by recovery of vision 2/3 and 9/10.

### VISUAL TRACTS AND CENTERS

Among the four cases, eight eyes, in disorders of the visual tracts and centers, the best vision was 2/100 in one patient. Two saw moving shadows and one had no light perception.

### AMBLYOPIA, CONGENITAL OR WITH SQUINT

It is understood that in these forty-seven cases two distinct conditions, congenital amblyopia, and amblyopia arising in connection with strabismus, are classed together; but in the absence of explanatory ocular lesions, they are alike so far as concerns objective symptoms. The diagnosis of them, including the discrimination between them, must rest largely on the history, on the point as to whether the amblyopia is bilateral or unilateral, and on the presence or absence of other congenital deviations from the normal type. It will be noted that of the forty-seven cases, twenty-two showed organic deviations from the normal, which took them out of the class of strict amblyopias. But such organic defects were not sufficient to account for the impairment of vision present.

It will be remembered that in Fuchs' work on the causes and prevention of blindness, congenital amblyopia, given as the cause of 0.2 per cent. of the cases in the statistics of Magnus, is the only cause that did not present characteristic objective evidence on which a diagnosis could be based. In this one condition the diagnosis must be reached through the history, and the absence of objective symptoms. The tests for malingering may be used to prove that the amblyopia is genuine and not merely psychic. But such tests must be multiplied and applied with great care, to furnish a sufficient basis for the diagnosis.

### CONCLUSION

From this survey of 704 eyes blind, or near blind, from all the common causes of blindness, this fact stands out: Except in amblyopia, congenital or associated with squint, blindness is always associated with objective changes that declare the sight has been greatly impaired, and often furnish the most important evidence of how great that impairment is.

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## ABSTRACT OF DISCUSSION

DR. T. B. SCHNEIDEMAN, Philadelphia: In the scientific sense, an eye is blind when it is incapable of perceiving the sensation of light—amaurosis. Practically, a person is blind when his visual power is so far reduced that he is incapable of following any occupation to gain his livelihood; from this point of view, it is of minor importance whether such a person possesses or not some slight remains of sight. This is the same as the definition of Cohn, one of the early students of blindness. Emmert defines blindness as the impossibility of going about in daylight, thus excluding hemeralopes. Schmidt-Rimpler and Magnus would express the limit of blindness when the patient is just able to count fingers at one-third meter in ordinary daylight. Statistics as to the incidence and causes of blindness among the population of a country depend mostly on official government census, and these are far from exact even in the most civilized countries. The statistics of blindness, as determined by census, give for the United States in 1920 the total number of the blind as 52,567, being 497 per million of population.

The chief causes of blindness given are cataract, glaucoma, atrophy of the optic nerve, ophthalmia neonatorum and trachoma. Only a very small percentage of those born blind reported blindness in the parents. Magnus' statistics, now somewhat antiquated, but still ranking among the most accurate at hand, based on 2,528 cases of blindness, give the leading causes in their relative proportion of frequency as ophthalmia neonatorum, trachoma and conjunctivitis of adults, diseases of the cornea, iridochoroiditis and iridocyclitis, glaucoma, atrophy of the optic nerve, injuries, and detachment of the retina. The question of the existence of blindness of one or both eyes resolves itself in practice to a determination whether the person under examination is simulating or not, or whether he is hysterical; for if the subject is honestly attempting to reply truthfully, the matter is easily settled. The ordinary tests for simulation or self deception are so well known that it is not necessary to enter into details.

The test devised by Dr. Jackson with the crossed cylinders is also based on impairing the vision of the good eye. Its

special value as a subjective test is that so little manipulation is required by the examiner, who simply turns one of the pair of cylinders which have been placed in front of the good eye with parallel axes before the examination is begun, and which in that position exert no influence on the vision; the person under examination can scarcely realize how the eye alleged to be poor is being tested. Based as it is on the impairment of vision that results when a convex and a concave cylinder are brought to a right angle, reducing the vision to about 0.4 in an emmetropic eye with +1 and −1 cylinders crossed, it furnishes a ready means of disclosing unreliable statements as to the degree of impairment of the eye claimed to be defective.

DR. LUCIEN HOWE, Buffalo: The question of blindness has always been a *bête noire*. Every asylum for the blind is certainly a standing monument to our ignorance. But as we learn, their number will decrease. I think it is Magnus who says that with the introduction of vaccination blindness in Europe fell something like 40 per cent. We have not been able to make any such change since then, but gradually we are approaching it and little by little we make steps forward. One method for detecting blindness has served me well: A man was sent to me with a partially opaque cornea on both sides, but not enough to account for the almost total blindness that he claimed. I said at once that it was impossible to arrive at a conclusion as to the degree of blindness, and the only thing to do was to send him to the hospital and keep him under observation, which was done. The orderly who had always been connected with the institution was an exceedingly intelligent man; he watched him and I watched him. I was sorry for the poor fellow and I came to the conclusion that his sight was very slight. It seemed to us best, however, to test him still further, so I told the orderly to see how much he was able to get about in the dark and with a diminished light. He could hardly find his way about, it was necessary for the orderly to lead him to different parts of the ward. One evening I suggested to the orderly that he put around this patient's bed a table and a chair and everything that might obstruct his progress. Then I gave the man an active cathartic. At the proper time he arose, rubbed his eyes, and without any trouble found his way around the tables and chairs, leaving no doubt as to the question of diagnosis.

DR. F. H. VERHOEFF, Boston: This paper is very helpful to all of us who have to testify before industrial accident boards. I have used a simple test for many years with great success. Whenever a patient comes in who is suspected of malingering, the first thing I do is to make this test: Let us suppose that the left eye is claimed to be defective. I grasp the patient's head with my left hand, ostensibly to steady it, then drop my thumb down in front of his right eye and ask him to read the test-type. This he does before he realizes what I am doing. Then I cover also his left eye with my right hand and he is unable to read at all.

DR. EDWARD JACKSON, Denver: My chief purpose was to urge that each of us should cultivate the ability to make an objective diagnosis of conditions presented and the probable extent of blindness that they cause, and my apology for introducing most of the several hundred cases is to indicate how, in going over my own cases, where I can interpret the meaning of the symptoms, I have been able to reach certain conclusions for myself. While comparison with cases of others is a very important thing, after that has been attended to each of us must get such experience with the ophthalmoscope and such acquaintance with conditions presented by the ophthalmoscope, in patients whose full cooperation we are sure of. When we get a sort of scale of objective conditions, coordinating with different degrees of blindness, we will be in a position where we can speak with as much definiteness as surgeons speak of the roentgen-ray findings, or of the presence of abscess, or a fracture, or as the psychiatrists speak as to the certainty or uncertainty of the cases on which they are expected to give expert opinions. The ophthalmologist should be trained to give an expert opinion of equal weight and accuracy with those based on roentgen-ray findings in many cases that are now arising in which blindness, partial or complete, is claimed. Even if we depend, to some extent on the subjective tests, we have the objective evidence and these objective tests should stimulate us to repeated subjective tests when we feel the results of the first obtained are not accurate.

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# PARENCHYMAL RÂLES IN PULMONARY TUBERCULOSIS

## THEIR CLINICAL SIGNIFICANCE *

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It is not my intention in this paper to present another classification of râles, nor is it proposed to attempt to describe any new adventitious sounds elicited in pulmonary tuberculosis. During my rather long experience in tuberculosis work, râles have always presented the most perplexing signs in the physical examination of the lungs, especially when it came to correlating certain types of râles and the explanation of their production, as commonly taught, with other clinical findings. The standard books on physical diagnosis seem to have taken for granted the correctness of the older authors' conception of râles, and little that is new and more enlightening has been written recently on this subject. Writers have from time to time called attention to the fact that râles may persist for a long time after the patient has recovered. Amberson,[1] in one of his late articles, mentions such cases in which, with persisting râles, clinical symptoms have subsided, and serial roentgenograms have shown a very definite clearing. A certain group or class of râles, usually elicited only by expiratory cough and inspiration, is generally accepted as an important sign of chronic parenchymatous tuberculous lesions, and it is generally believed and held that these râles are produced by moisture or secretions in the terminal bronchioles. My object in this paper, based on careful study and investigations, is to show that this is probably not the case; that some other mechanism is responsible for their production; that their production seems to depend on a certain degree of collapse of the secondary lung lobules; furthermore, that these râles, while usually regarded as typical of tuberculosis, may be present without active lesions, and therefore they cannot be accepted as conclusive evidence of active or even manifest tuberculosis unless supported by other findings.

### CLASSIFICATION

The nomenclature of râles, founded on many different classifications, makes it rather difficult to discuss a particular type, so that those who do not use the same terminology and classification will understand clearly the variety of râles being considered. Râles are classified according to their character, their method of production, their origin, or a combination of these. They may originate in the trachea, bronchial tree, cavities and pleura, but the discussion in this paper will pertain more to adventitious sounds coming from the pulmonary parenchyma. In considering the râles described by various authors, it may assist in the identification of parenchymal râles if those are referred to which can probably be classified in this group. Bush-

* From the Fitzsimons General Hospital.

1. Amberson, J. B., Jr.: Clinical Studies of the Healing of Pulmonary Tuberculosis, Am. Rev. Tuberc. **10**: 227 (Nov.) 1924.

nell [2] introduced the term "indeterminate" râles to include râles which accompany inflammatory or irritative conditions of a less acuity than that of tuberculous pneumonia. He says, "Just as the crepitant and subcrepitant râle is associated with pneumonia, the indeterminate râle is the characteristic râle of chronic pulmonary tuberculosis.[3] He further subdivided indeterminate râles into "typical" and "atypical"; the typical, either small or medium, being uniform in size and occurring in showers, "the atypical found in tubes which contain varying and usually relatively small amounts of fluid, having no fixed characteristics as respects size, and time of occurrence in respiration."

Other authors (Flint [4]) employed the same term, applying it more specifically to a group of pulmonary râles elicited in tuberculosis of the lungs and other pulmonary conditions, the exact source and method of production of which are unknown. The râles generally encountered in pulmonary tuberculosis are the râles described by Bushnell and named "indeterminate." They were considered by him to be bronchial in origin, resulting from secretions in the bronchial tubes. This explanation for the "typical" form can be questioned for many reasons to be discussed later; but, granted that such is the case, even though their association with active disease could then be readily understood, this interpretation might still be misleading. Bushnell further says:

> Râles are the best evidence that the lesion is resisting its foes. Râles are absent in the obsolete or arrested lesion—the body does not need to fight. They are present in the stage of reaction—the body is fighting, whether successfully or not is to be determined in part by the number and quality of the râles, in part by other considerations. . . . They may be absent again, when the body can no longer fight—when the power to react is lost. Nothing could be more erroneous than to draw favorable conclusions from the diminution or the disappearance of râles in the very advanced case.

Turban [5] speaks of fine crepitations which, he says,

> probably originate from separation of alveolar walls which have become glued together and may be recognized in simple atelectasis. . . . The interpretation given of crepitation appears to me to be applicable in certain cases to somewhat coarser sounds. In cases running a favorable course, for years after cough and expectoration has disappeared, there may often be heard the same fine and medium râles which were to be heard at the height of the disease, especially after an effort to cough. It is impossible to distinguish these sounds from the true râles dependent on catarrh.

Sahli [6] refers to moist or bubbling râles, crackling dry râles and crepitations, all of which, according to his description, might be included under parenchymal râles. He describes the production of bubbling râles and crackling râles as "due to the formation of membranes of secretion in the bronchial lumen, which is stretched and torn apart again, partly by the movement of the air and partly by the movement of the lungs." The crepitations he conceives as being due to "the tearing apart of the alveolar walls by the inspiratory stream." He further adds that they can be produced by "blowing up the absolutely dry lung of the cadaver; and in perfectly healthy individuals with no real secretion in the alveoli or bronchi, crepitations are sometimes heard after they have been breathing superficially for a long time and then take a deep breath."

2. Bushnell, G. E.: Manifest Pulmonary Tuberculosis, Mil. Surgeon **42**: 383 (April) 1918.
3. Bushnell, G. E.: The Diagnosis of Tuberculosis in the Military Service, Mil. Surgeon **40**: 620 (June) 1917.
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### INTERPRETATION OF RÂLES

If we hope to interpret râles properly and use them as a practical guide in determining the character of a lesion and the clinical progress of a case, we must have a more accurate knowledge of their origin and the mechanism of their production. To have the term "bronchial" or "bubbling" apply to râles in cases in which, owing to the nature of the disease, we can assume them to be due to secretions in the bronchial tubes, and the term "indeterminate" to the same râles when the rationale of their production and the pathologic condition which they represent is uncertain, at least suggests that our interpretation in the former was erroneous.

In this paper I shall discuss a type of râles, small or medium, but uniform in size, bubbling, crackling, or crumpling in character, elicited toward the end of forced inspiration or bursting with the expiratory cough, and continuing during the greater part of the following inspiration. This is the common type of râle elicited over tuberculous lesions and designated at times as indeterminate, crepitations, cracklings, or fine and medium râles. We know that the sonorous and sibilant râles sometimes classified as whistling râles,[7] the bubbling râles of pulmonary edema and the gurgling râles of bronchiectasis are bronchial râles, but their law of production is different from that of the râles just described, which Bushnell would probably have designated as "typical indeterminate" râles. The former are variable, depending on the character and amount of secretions in the bronchial tubes or the turgescence of the mucous membrane; they may be heard at any time during respiration, and a cough is not required to elicit them. Sometimes a cough causes them to disappear, or they vanish after the patient raises some sputum.

From their sound, the method by which they are elicited and their behavior, no skepticism can exist as to their origin. In marked contrast, the others are localized and constant, regardless of the quantity of the patient's expectoration. They remain unchanged, irrespective of how much the patient coughs or raises during the examination. A cough is often necessary in order to elicit them. They may be fine or medium, but they are uniform in size and occur in showers at the same phase of respiration. They are encountered in all the pathologic-anatomic types of tuberculosis. The lesions may caseate and progress; they may fibrose and heal; perifocal reactions may develop and subside; pleural adhesions may be present or absent; the patient may have severe constitutional symptoms or none at all; he may have considerable cough with profuse expectoration or no cough and no expectoration; the roentgen ray may show any type of tuberculosis, and the involvement may be dense or it may be difficult to detect; still these râles remain unchanged and can persist indefinitely.

It is true that not infrequently, in time, as the lesions clear up and heal, the râles disappear, but we see many cases in which they persist after the patient has become cured and the roentgen ray reveals fibrous tuberculosis. It is inconceivable that secretions of invariable consistency and of such constancy could exist in the bronchial tubes, producing crackles and bubbles of uni-

7. Kaufman, I.: A Method of Teaching Students the Diagnosis of Pulmonary Tuberculosis, Am. Rev. Tuberc. **10**: 210 (Oct.) 1924.

form size, localized, unchangeable, and persisting over long periods of time, such adventitious sounds following an entirely different law from râles known to be produced in the bronchial tubes. No doubt, we do have bubbling râles caused by fluid in the bronchial tubes, as, for instance, in pulmonary edema, bronchiectasis, and sometimes during pulmonary hemorrhage; but such râles vary in size and number, occur at no fixed time, and may be present during both phases of respiration, requiring no cough to elicit and disappearing with the removal of secretions—not unlike the whistling râles or rhonchi in their behavior.

In any sanatorium, especially in an institution as large as the Fitzsimons General Hospital, many patients will be found with no constitutional symptoms, well nourished and ambulatory, over whose lungs large numbers of "typical indeterminate" râles can be elicited. Such a patient without cough or expectoration was taken into the room of a very ill consumptive patient, one in whom a recent extension and the development of a tuberculous bronchopneumonia had occurred. The râles were carefully compared, and no difference could be detected. One case was arrested and fibrous and the other very active and caseous; still, the râles were the same. Then, again, this experiment has been repeatedly performed: Normal pig's lungs are inflated with a bellows, and the râles produced compared with those elicited over the chest of the arrested case. The râles are the same. Perhaps a more convincing experiment was the one we were able to perform on a cadaver. A soldier commited suicide by shooting himself through the heart with a small automatic pistol. He died instantly. An incision was made in the midline of the neck, and the larynx and upper trachea were brought out through the opening. The end of the bellows was then inserted into the trachea and the cadaver made to respire. No râles could be elicited. The lungs and trachea were next removed from the chest intact, laid on the table, and examined. They were normal in every respect and the bronchi free from any secretions. The lungs were again inflated, and, as the injected air expanded the collapsed lobules, fine and medium râles were produced resembling in every respect the "typical indeterminate" râles of pulmonary tuberculosis. We have compared the "typical indeterminate" râles with those known to be bronchial in origin and due to secretions in the bronchial tubes. There is no similarity. We have compared them with râles produced in normal lungs with no secretions in the bronchial tubes, the râles being undoubtedly caused by the inflation of collapsed lobules. A similarity was found to be present. They should, therefore, resemble atelectatic râles. If we study the so-called marginal sounds, the râles sometimes elicited over the apexes when the patient first takes a deep breath after having been breathing shallow, the râles elicited above pleural effusions or over areas of lung rendered atelectatic by obstruction of a bronchus or by compression, or the râles of subcutaneous emphysema, we shall again encounter adventitious sounds similar to the so-called "typical indeterminate" râles.

For the last two years, a study, for the purpose of determinating the mechanism of râles, has been made on cadavers at this hospital, in the following manner:

A vertical incision is made over the larynx, and the larynx and upper part of the trachea are dissected free and brought through this incision. A bellows is then inserted into the glottis and the cadaver made to breathe by inflating the lungs with the bellows. During this artificial respiration the chest is auscultated, and râles, if present, are recorded. The lungs, together with the larynx and trachea, are then removed from the chest, and again by means of the bellows made to expand and collapse. Râles are again auscultated and recorded by lobes. In order to determine the exact origin of the râles, incisions are made into the lung through the area where they are produced, the condition of the lung is noted, whether moisture, pneumonia, congestion, and tubercle are present, and the cut surface observed during auscultation to see whether fluid bubbles from the cut end of the bronchioles during respiration. The bronchi and their branches leading to various parts of the lungs are then opened and the lumen of the bronchial tubes examined for secretions, inflammation and ulceration.

### SIX TYPES OF RÂLES

So far, six different types of râles have been elicited and studied:

1. A coarse, gurgling râle, heard over cavities, due to air passing through fluid in the cavities.

2. A rattling, which can be heard without the stethoscope, and comparable to the tracheal death rattle. When elicited by auscultation, a very coarse bubbling sound is heard, both on inspiration and on expiration, but more marked with the latter. These râles are unmistakably due to fluid in the trachea and primary bronchi.

3. Medium râles, heard throughout inspiration and also during expiration, caused by fluid in the smaller bronchi. These râles are elicited when the lungs are full of fluid and contain considerable bloody serum and secretions, as in early pneumonia, congestion and edema. They are present also when the lung, completely expanded, is further inflated. An incision over the area where the râles are elicited shows a bubbling of serum or fluid from the cut ends of the bronchi during respiration, and occurring synchronous with the elicitation of the râles through the stethoscope.

4. Sonorous and sibilant râles, like those heard in asthma, produced by tenacious fluid in the larger bronchi.

5. Fine and medium râles heard over normal lungs in which there are no secretions in the bronchi or bronchioles, and elicited only when the lungs are in a condition of collapse and from this point made to expand. They occur in showers toward the end of inspiration and are not heard during expiration. They are associated in some way with atelectasis of the lung, either complete or partial, and are heard as the lung expands and air can be seen inflating the lobules. When the lung becomes completely inflated, they disappear, but can be made to reappear by squeezing the air from the lungs with the hands and then inflating them. They are not due to secretions in the bronchi or bronchioles, as the cut section of the lung over which they are produced is dry and does not extrude any serum during inflation. They are also not due to any changes in the mucous membrane, as the lumen of the bronchial tubes shows no evidence of bronchitis or disease. They are therefore probably caused by a popping open of collapsed lobules as the air forces its way into the intralobular bronchiole, or possibly to a sudden separation of approximated walls of the bronchi during inflation.

6. Fine crackling and crepitant râles, heard over the surface of the lung when the bell of the stethoscope is pressed against the lung with some firmness and moved about. They are also heard during auscultation over the lungs and occur synchronous with the inflation of the subpleural lobules.

### PARENCHYMAL RÂLES

Consequently, it would appear that the "typical indeterminate" râles are connected in some way with the sudden expansion of the partially or completely collapsed pulmonary lobules, and in view of their origin could appropriately be called lobular or parenchymal râles. This collapse might be due to an exudate or infiltration in a neighboring lobule, to the constriction or contraction of areas of fibrous induration, or to the partial occlusion of bronchioles by the pressure of inflammatory tissue, by the constriction of fibrous bands, or by the obstruction of plugs of mucus, etc. In other words, we have a condition of partial or relative atelectasis, made more complete by an expiratory cough, and thus the "typical indeterminate," or, better termed, lobular or parenchymal, râles are produced. The parenchymal râle may exceptionally be heard with expiration. It is conceivable that some lobules may be inflated during expiration instead of during inspiration, as a result of an uneven expansion of the lung for various reasons. The parenchymal râle is not constantly associated with any one type of breathing, but it often occurs with feeble or restricted breathing. Frequently, the breath sounds are scarcely audible until the patient gives an expiratory cough, following which inspiration is rather high pitched. With large areas of atelectasis, bronchovesicular or bronchial breathing may be present. An important observation is that such râles can occur without abnormal secretions in the bronchi and bronchioles, which is not surprising when we are able to elicit similar sounds outside the lungs, as the crackling of air in the subcutaneous fascia, heard when the bell of the stethoscope is pressed gently against the emphysematous area. In postinfluenzal changes, parenchymal râles may be elicited over the bases of the lungs. They are usually associated with feeble breathing. The constitutional symptoms are mild, with little or no cough and expectoration. Roentgen-ray examination is negative. These râles may persist for a long period.

### CLINICAL SIGNIFICANCE

We may now consider the clinical significance of such râles, and if what I have attempted in this paper to prove is true, we can quickly grasp how difficult and erroneous it would be to attempt to associate these râles with any one type of tuberculosis or the activity of tuberculous lesions without at least other supporting clinical data. From my own observation, râles such as I have just described are what many tuberculosis specialists and clinicians of today associate in their minds with the activity of tuberculous involvement of the lungs, or, at least, they are unduly influenced and give much weight to these râles as a sign of active disease. I will mention only a few of the complications and errors that arise on account of this more or less fixed idea.

A patient, after a period of hospitalization, during which time he has become free of symptoms, has passed through graduated exercise tests and the roentgen ray has shown fibrous lesions, is discharged from the hospital. On physical examination, he still has pulmonary râles. He starts out to become rehabilitated and restored to useful employment. As a necessary policy, he must, for various reasons, be examined by other physicians. The patient may contract a cold, becomes alarmed, and seeks the examination himself. The physician hears the râles, tells him the disease is active again, and he is rehospitalized. Thus, at the very time when he needs reassurance and encouragement, the patient is returned to the hospital disheartened and bewildered. A few experiences like this and he probably becomes an incurable pensioner.

An army officer, who has been retired on account of tuberculosis, and who had previously been a patient of mine, was admitted to the Fitzsimons General Hospital a number of years later, and came under my observation a second time. After retirement, he had made an excellent cure, and I had been impressed by his rugged health and powers of endurance, although a patch of râles persisted over the upper lobe of the right lung. During the war, he returned to active duty, and later became ill with symptoms suggestive of tuberculous activity. The physician examined him, heard râles, and without further question diagnosed activity. His case turned out to be a focal infection in one antrum, after much valuable time had been lost in treating the patient for active tuberculosis.

A young physician, who had had a busy career as a contract doctor in a western mining camp, desired to enter the Medical Corps of the Army, and on physical examination was held up because he had showers of coughing râles over the upper part of the left lung. He had had pneumonia in childhood, no other illness, and was in perfect health at the time of this examination. A roentgen-ray examination of the lungs was negative. Repeated examinations over a period of months showed no change in the râles. He was finally rejected, but has worked diligently in civil practice and has remained well ever since.

Many such instances as the following can be cited: A field artillery sergeant was sent to Fort Bayard to be treated for clinical tuberculosis. He was from West Point and thought highly of by his officers. They desired to have him returned to duty, if possible. After a year's treatment, he was in good general condition and free from symptoms, although he had medium râles over the upper parts of both lungs, which persisted unchanged. The patient was returned to duty and remained well.

Another noncommissioned officer, showing many râles over the lesions, was returned to duty just prior to our participation in the late war. He went overseas with the First Division, fought in a number of offensives, was wounded and gassed. Six months after the armistice, when examined, he was in excellent health, yet the same râles could be elicited over the old lesions.

### SUMMARY AND CONCLUSIONS

1. Showers of fine and medium râles of equal size, occurring at the end of a full inspiration, or the so-called coughing râles which occur when the patient forcibly breathes out, gives an expiratory cough, and immediately breathes in, are not due to the bubbling of secretions in the alveoli or bronchial tubes, nor are they necessarily associated with abnormal secretions in these structures. Such râles are not always associated with active inflammatory processes in the pulmonary parenchyma or bronchi, and must be distinguished from tracheal, bronchial, cavity and pleural râles.

2. Parenchymal râles cause the most confusion. They may be due to pneumonia, fibrosis, atelectasis pleurisy, etc., and cannot be said to be associated with any particular disease or pathologic condition.

3. Showers of râles usually elicited only by cough and heard over the upper parts of the lungs are unquestionably the most reliable physical sign for the detection of tuberculous lesions.

4. The significance of these râles as a criterion of manifest tuberculosis and the character of the lesions will depend on other clinical findings—history, symptoms, sputum, roentgen-ray examination. A period of observation may be necessary in order to arrive at a definite diagnosis.

5. In studying the progress of a case and in deciding whether a tuberculous process is progressing or undergoing retrograde changes, the persistent occurrence of this type of râle is not a conclusive sign unless correlated with other physical signs and clinical findings.

# Clinical Notes, Suggestions, and New Instruments

## PYELONEPHRITIS COMPLICATING PREGNANCY AFTER NEPHRECTOMY *

JOHN E. HALL, M.D., NASHVILLE, TENN.

I report the management of a case of pyelonephritis occurring in a woman who became pregnant about one year after I had performed a nephrectomy on her for pyonephrosis of the left kidney. The right kidney was at all times free of infection during her illness from the left-sided pyonephrosis. Attention is called to this fact, so that it may not be supposed that the pyelonephritis developing during pregnancy was due to impairment of the right kidney from infection at the time of this pyonephrosis. The primary focus of infection responsible for the pyelonephritis could not be ascertained. The patient's tonsils were removed shortly after her nephrectomy, and her teeth and accessory sinuses were in perfect condition.

### REPORT OF CASE

Mrs. G. J., aged 27, became pregnant in May, 1924, and came to me the latter part of June for advice as to precautions necessary for her to take during pregnancy. Not being familiar with the course of pregnancy occurring after nephrectomy, I was dubious as to a normal outcome. However, knowing that sufficient time had elapsed since the nephrectomy for necessary compensatory hypertrophy of the remaining kidney to have taken place essential for the performance of physiologic function, I gave her advice as to the care of her general health, and she was instructed to report to me at once should any untoward symptoms arise. She was not seen again until late in September, when a call was received to come to see her at once. She was in bed, very ill, suffering from a severe chill. Her temperature within an hour reached 105 F. She complained of intense pain in the region of the right loin, and was very much nauseated. She stated that she had been having more or less urinary disturbances for several days, but had thought them probably due to the pregnant state. On the day previous, she had a very severe chill followed by high fever. A catheterized specimen of the bladder urine showed many pus cells and quite a few red cells, together with considerable albumin. The urine being highly acid, she was given large doses of hexamethylenamin, water was administered freely, and in addition, saline cathartics were prescribed. In passing, it may be stated that I place no faith in hexamethylenamin as an urinary antiseptic, and that it was given only because others recommend its use in this condition.

Within the next forty-eight hours, the patient had three septic chills with subsequent high rises of temperature. Nausea and vomiting were persistent, and she was completely prostrated by her toxic condition. As she was steadily becoming weaker, I decided to employ cystoscopy and drain the kidney by means of an indwelling catheter. On inserting the catheter in the right ureter, I met an obstruction about 4 inches up which was passed with much difficulty. When the catheter had passed and entered the pelvis of the kidney, 35 c.c. of purulent urine flowed through the catheter in a steady stream. After drainage, the kidney was lavaged with 1 per cent. solution of silver nitrate, the instrument removed, and the catheter left in place for continuous drainage.

The temperature at the time of the ureteral catheterization was 105 F. Following drainage by the indwelling catheter, there was a decided fall in the temperature, and the patient had no more chills. The catheter was left in the ureter for three days and then removed, following which, she had a slight rise of temperature daily for about ten days, but this daily elevation never exceeded 100 F. The kidney was lavaged every sixth day for about six weeks, at the end of which time the urine, obtained by ureteral catheterization, showed no organisms on culture, and was free from pus. Five weeks later, she began to have further urinary disturbances, and a specimen from the kidney at this time was culturally positive. It should be stated that the original infection, as well as the reinfection, was due to the colon bacillus. From this time to within five days of confinement, the kidney was lavaged with silver solution every week.

During the last six weeks, the cystoscope was passed with difficulty on account of the uterine enlargement. It may be stated that if one is gentle in the manipulation of the instrument, no fear need be entertained as to harm resulting from its use, even in the last few weeks of pregnancy.

The obstetrician attending this patient stated that she had a normal delivery, but I am firmly convinced that she never could have gone through with pregnancy and have given birth to a living child, had not pelvic lavage been used in the treatment of the severe pyelonephritis, and continued throughout the period of gestation.

Eve Building.

* Read before the West Tennessee Medical Association, Paris, Tenn., May 21, 1925.

# Special Article

## THE USE AND UTILITY OF DIGESTIVE ENZYMES IN THERAPEUTICS

### A SUMMARY OF THE REPLIES TO A QUESTIONNAIRE SUBMITTED TO THE MEMBERS OF THE AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

W. A. BASTEDO, M.D.
NEW YORK

### STATEMENT OF THE COUNCIL ON PHARMACY AND CHEMISTRY

For some years the Council on Pharmacy and Chemistry has been questioning, in general, the value of digestive enzyme preparations. As a basis for judging the claims for preparations already accepted for New and Nonofficial Remedies and for such new preparations as may be submitted for acceptance, the Council instructed its Committee on Therapeutics to obtain a report on the usefulness of digestive enzymes in medicine.

The Section on Gastro-Enterology and Proctology of the American Medical Association, and the American Gastro-Enterological Association were asked to cooperate in making such an investigation. A questionnaire was formulated by Dr. Frank Smithies of the Section on Gastro-Enterology and Proctology, Dr. W. A. Bastedo of the American Gastro-Enterological Association and Dr. Warfield T. Longcope, chairman of the Council's Committee on Therapeutics, and submitted by Dr. Bastedo to the members of his association.

The Council has considered the report prepared by Dr. Bastedo on the basis of the questionnaire and endorses its publication.

W. A. PUCKNER, Secretary.

In an endeavor to determine the extent of use and the degree of utility of the digestive enzymes in therapeutics, the Council on Pharmacy and Chemistry of the American Medical Association asked that a questionnaire on this subject be submitted to the members of the American Gastro-Enterological Association. Four questions were asked and replies were received from fifty-nine members, including one physiologist, one pathologist and one radiographer, who do not have occasion to consider the question. The replies may be summarized as follows:

Question 1. *In your opinion are the digestive enzymes of value as therapeutic agents?* Yes, 16; too little experience to record, 3; does not know, 1; very disappointing, 1; doubtful, 5; very limited, 7; in very few

cases only, 2; rarely, 2; of minor importance, 2; as deficiency remedies only, 3.

Question 2. *Do you prescribe:*

(*a*) *Pepsin or pepsin preparations?* Yes, 8; occasionally, 4; rarely, 3; total, 15.

(*b*) *Pancreatin or pancreatic preparations?* Yes, 15; occasionally, 4; rarely, 11; total, 30.

(*c*) *Diastase or diastase preparations?* Yes, 9; occasionally, 3; rarely, 2; total, 14.

Question 3. *What preparations of the digestive enzymes do you prescribe?*

(*a*) *Pepsin.*—Pepsin or scale pepsin, 7; essence of pepsin, 12; gastron, 8; glycerite of pepsin, N. F., 1; elix. pepsini lact., N. F., 1; peptenzyme, 1.

(*b*) *Pancreatin.*—Pancreatin, 12; enteric capsules of pancreatin, 2; holadin, 9; pankreon, 3; raw pancreas, 2; pancreas substance, Armour, 1; liq. pancreaticus, Fairchild, 1.

(*c*) *Diastase.*—Diastase, 1; Taka-diastase, 12; extract of malt, 1.

Question 4. *In what conditions do you prescribe these and do you consider your results good, fair or poor?*

(*a*) *Pepsin.*—Achylia gastrica, 10; achlorhydria, 1; atrophic gastritis, 2; pernicious anemia, 1; gastrogenic diarrhea, 2; subacidity, 2; gastric atony, 1; flatulence, 1; to digest core of carbuncle, 1; as vehicle, 6.

(*b*) *Pancreatin.*—Pancreatic deficiency (whether accompanying tropical sprue, pancreatitis, malignancy or other conditions), 24; gastrogenous diarrhea, 2; achylia gastrica, 4; achylia gastrica with pancreatic diarrhea, 2; chronic gastritis, 1; chronic gastritis with hypochlorhydria, 2; carbohydrate fermentation, 2; chronic cholecystitis (in conjunction with bile salts), 1; where free fat in stools, 2; distention and general abdominal complaints, 1; intestinal indigestion, 2; for peptonizing foods, most; as vehicle, 2; only in nutrient enemas, 1.

(*c*) *Diastase.*—Fermentative dyspepsia with starch indigestion, 9; achylia pancreatica, 1; chronic pancreatitis, 1; hyperacidity with poor starch digestion, 1; duodenitis with starch indigestion, 1; achylia gastrica, 1; obstructive jaundice, 1; as vehicle, 2.

### RESULTS

For the most part, results from the use of these enzymes have been reported in general terms only. Such as they are have been included in the summary herewith.

### SUMMARY

*Pepsin.*—Usually administered with hydrochloric acid and prescribed by fifteen members, pepsin finds its chief employment in achlorhydria or achylia gastrica with or without diarrhea, and whether or not the achylia is associated with pernicious anemia or tropical sprue. Beneficial results are reported by seven, though even then "only occasionally" or as "most noticeable if there is achylic diarrhea." It is also employed in subacidity by two, and in gastric atony and flatulence by one each, no mention being made of results.

*Pancreatin.*—Frequently administered with sodium bicarbonate and occasionally with calcium carbonate, pancreatin is prescribed by thirty members. It has its great use where there is evidence of pancreatic deficiency or assumption of such deficiency, whether of protease (trypsin), of amylase or of lipase, or of any two of these enzymes or of all three. Several members report results "good," and one considered it "highly valuable" in tropical sprue. Another obtains "excellent" results from the use of raw pancreas. Pancreatin is also employed slightly in cases of achylia gastrica and subacidity, no mention being made of results.

*Diastase.*—This is prescribed by eleven members in cases in which there is starch indigestion, and by one in achylia gastrica, one in achylia pancreatica, one in chronic pancreatitis and one in obstructive jaundice. Results in "fermentative dyspepsia with starch indigestion" are considered "fair" by three observers. The others fail to mention results.

### CONCLUSIONS

From this report it is seen that among the members of the American Gastro-Enterological Association many do not prescribe digestive enzymes at all, while those who do employ such ezymes confine their use almost wholly to cases of demonstrated or believed enzyme deficiency. It is further noticeable that almost all who prescribe them show no great enthusiasm over the results of their use, except possibly in the case of pancreatin in proved pancreatic deficiency. The conclusion is therefore inevitable that they are of minor importance in therapeutics.

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# New and Nonofficial Remedies

## SPLEEN AND RED BONE MARROW

### Preliminary Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement regarding the experimental status of therapy with spleen and red bone marrow.

W. A. PUCKNER, Secretary.

Spleen was admitted to New and Nonofficial Remedies in 1910 with the statement: "Spleen has been used empirically in anemia, chlorosis, myxedema and various other diseases with no definite results." It was omitted in 1912 because there was so little evidence that it was of much value. A preparation of red bone marrow was admitted to New and Nonofficial Remedies in 1909 with the statement: "The value of this preparation is believed to depend on a power to stimulate the formation of red blood corpuscles. It is said to be useful in simple and pernicious anemia." In 1918, the Council omitted red bone marrow because the experimental and clinical experience with it had been disappointing.

Recently C. D. Leake of the Department of Pharmacology of the University of Wisconsin, and his collaborators, have studied the effects of spleen and red bone marrow given separately and in combination. From their studies these investigators conclude that a combination of spleen and red bone marrow is much more efficient than either spleen or red bone marrow alone. According to these studies the combination, used in substance or in the form of an extract, produced a decided effect within two or three days on normal animals. An increase of hemoglobin as much as 15 to 20 per cent. and an increase in red blood cells of one million was noted. A similar effect was observed on normal human individuals.

The combination of spleen and red bone marrow was administered to patients with secondary anemia resulting from a variety of causes. The improvement was not uniformly striking, but there was improvement in a considerable number of cases. The results in the treatment of pernicious anemia were uniformly discouraging.

It is too early at present to judge the value of the combination of spleen and red bone marrow in the treatment of secondary anemia, for the control periods in both animal and pathologic cases have been short. However, the reported improvement in cases of secondary anemia are sufficiently favorable to warrant a thorough investigation of this combination as a possible aid in the treatment of this condition.

Based on the studies of Leake and his collaborators, manufacturers are offering mixtures of spleen and red bone

marrow. Thus, Lehn & Fink, Inc., market Spleen and Bone Marrow Desiccated, and the Wilson Laboratories offer a preparation under the trademarked name "Spleenmarrow."

Spleen and Bone Marrow-L. & F. Desiccated is a mixture in equal proportion of desiccated spleen substance and desiccated red bone marrow of animals used as food by man. To obtain the product, spleens are dried in partial vacuum at a low temperature; the bone marrow of calf ribs is similarly dried; these dried products are mixed. One grain of the finished product represents approximately 2½ grains of fresh spleen and 1½ grains of fresh red bone marrow. It is supplied in the form of a powder and in 5 grain capsules.

The "Spleenmarrow" of the Wilson Laboratories is stated to be prepared by extracting and concentrating in vacuo spleen substance and red bone marrow. No details of the method of preparation are furnished, but it is stated that the activity of the preparation is judged by the rise in blood cells in normal human beings and dogs, following the administration of the "Spleenmarrow" product. "Spleenmarrow" is marketed in the form of capsules, tablets and a liquid; each 5 grain capsule or 5 grain tablet or "teaspoonful" of liquid is stated to contain the equivalent of 2½ grains of desiccated spleen and 2½ grains of bone marrow powder.

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THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

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**PROTEIN EXTRACTS-MULFORD.**—Atopen Solutions-Mulford.—Liquids obtained by extracting the protein of substances believed to be the cause of specific sensitization.

*Actions and Uses.*—See Allergic Protein Preparations, New and Nonofficial Remedies, 1925, p. 278.

*Dosage.*—Protein Extracts-Mulford are used for both diagnosis and treatment. See Allergic Protein Preparations, New and Nonofficial Remedies, 1925, p. 278.

Protein Extracts-Mulford are marketed in 5 Cc. vials containing 250 "protein units" per Cc.

Manufactured by the H. K. Mulford Company, Philadelphia. No U. S. patent or trademark.

*Almond Protein Extract-Mulford*[1], *Apple Protein Extract-Mulford*[1], *Asparagus Protein Extract-Mulford*[1], *Banana Protein Extract-Mulford*[1], *Barley Protein Extract-Mulford*[1], *Bean (Lima) Protein Extract-Mulford*[1], *Bean (Navy) Protein Extract-Mulford*[1], *Bean (String) Protein Extract-Mulford*[1], *Beef Protein Extract-Mulford*[2], *Beet Protein Extract-Mulford*[1], *Buckwheat Protein Extract-Mulford*[1], *Cabbage Protein Extract-Mulford*[1], *Cantaloupe Protein Extract-Mulford*[1], *Carrot Protein Extract-Mulford*[1], *Cat Hair Protein Extract-Mulford*[2], *Cauliflower Protein Extract-Mulford*[1], *Celery Protein Extract-Mulford*[1], *Chicken Protein Extract-Mulford*[2], *Chicken Feather Protein Extract-Mulford*[2], *Cattle Dander Protein Extract-Mulford*[2], *Clam Protein Extract-Mulford*[2], *Cocoa Protein Extract-Mulford*[1], *Codfish Protein Extract-Mulford*[2], *Coffee Protein Extract-Mulford*[2], *Corn Protein Extract-Mulford*[1], *Cucumber Protein Extract-Mulford*[1], *Dog Hair Protein Extract-Mulford*[2], *Eggplant Protein Extract-Mulford*[1], *Egg White Protein Extract-Mulford*[2], *Egg Yolk Protein Extract-Mulford*[2], *Flaxseed Protein Extract-Mulford*[11], *Goose Feather Protein Extract-Mulford*[2], *Guinea-Pig Hair Protein Extract-Mulford*[2], *Horse Dander Protein Extract-Mulford*[2], *Horse Serum Protein Extract-Mulford*[12], *Kapok Protein Extract-Mulford*[13], *Lamb Protein Extract-Mulford*[2], *Lettuce Protein Extract-Mulford*[1], *Lobster Protein Extract-Mulford*[2], *Mackerel Protein Extract-Mulford*[2], *Milk Protein Extract-Mulford*[2], *Mushroom Protein Extract-Mulford*[2], *Oat Protein Extract-Mulford*[1], *Onion Protein Extract-Mulford*[1], *Orange Protein Extract-Mulford*[1], *Orris Root Protein Extract-Mulford*[1], *Oyster Protein Extract-Mulford*[2], *Pea Protein Extract-Mulford*[1], *Peanut Protein Extract-Mulford*[1], *Pepper (Black) Protein Extract-Mulford*[1], *Pork Protein Extract-Mulford*[2], *Potato Protein Extract-Mulford*[1], *Rabbit Hair Protein Extract-Mulford*[2], *Rice Protein Extract-Mulford*[1], *Rice Powder (Polish) Protein Extract-Mulford*[1], *Rye Protein Extract-Mulford*[1], *Salmon Protein Extract-Mulford*[2], *Spinach Protein Extract-Mulford*[1], *Squash Protein Extract-Mulford*[1], *Strawberry Protein Extract-Mulford*[1], *Sheep's Wool Protein Extract-Mulford*[2], *Sweet Potato Protein Extract-Mulford*[1], *Tea Protein Extract-Mulford*[2], *Tomato Protein Extract-Mulford*[1], *Veal Protein Extract-Mulford*[2], *Walnut Protein Extract-Mulford*[1], *Wheat Protein Extract-Mulford*[1].

Protein Extracts-Mulford are prepared from various substances, and extracted with a buffered salt solution composed of sodium chloride 25 Gm., sodium bicarbonate 12.5 Gm., phenol 0.5 Gm., one liter of distilled water. The finished product is adjusted to contain 250 "protein units" per Cc.

Products marked (1) are prepared in the following manner: The peel, if any, is removed, the substance is minced in a grinder and the juice is collected; 0.5 per cent. phenol is added, also a thin layer of toluene. The mass is thoroughly shaken and allowed to stand for one week. It is then filtered and sterilized by Berkefeld filtration.

Products marked (2) are prepared in the following manner: To the minced substance acetone is added. It is shaken thoroughly and transferred to a filter. This process is repeated until all traces of fat are removed. The acetone is then evaporated off, and the dried residue sifted and extracted with the buffered salt solution.

Products marked (3) are prepared in the following manner: The substance is subjected to heat at 65 C. for one hour in a 0.2 per cent. solution of sodium hydroxid. After cooling, it is strained through cheese cloth, paper filtered, and precipitated with acetic acid (36 per cent.). The precipitate collected is redissolved in 0.2 per cent. sodium hydroxid, filtered, and again precipitated with acetic acid. The final precipitate is dried, ground in a mortar, and sifted through a bolting cloth. The dried substance is extracted with the buffered salt solution.

Products marked (4) are prepared in the following manner: The shell, if any, is removed, the substance is minced (when required) and the oil extracted with ether. The residue is ground in a mortar and sifted through a bolting cloth. It is then extracted with the buffered salt solution.

Products marked (5) are prepared in the following manner: The whites and yolks are separated and each coagulated with acetone. The respective coagulates are ground, dried and sifted through a bolting cloth. The dried material is extracted with the buffered salt solution.

Products marked (7) are prepared in the following manner: The substance is treated one hour with a 0.2 per cent. solution of sodium hydroxid. It is then strained through cheese cloth, paper filtered, and precipitated with acetic acid (36 per cent.). The precipitate collected is redissolved in 0.2 per cent. sodium hydroxide, filtered, and again precipitated with acetic acid. The final precipitate is dried, ground in a mortar, sifted through a bolting cloth, and extracted with buffered salt solution.

Products marked (8) are prepared in the following manner: The substance is washed in chloroform, dried, ground in a mortar, and sifted through bolting cloth. It is then extracted with the buffered salt solution.

Products marked (9) are prepared in the following manner: The substance is precipitated with acetic acid (36 per cent.). The precipitate is collected, dried, ground in a mortar, and sifted through bolting cloth. The dried material is extracted with the buffered salt solution.

Products marked (11) are prepared in the following manner: The substance is ground, washed with ether, extracted with 0.2 per cent. sodium hydroxide, filtered and precipitated with acetic acid. The precipitate is dried and powdered, and extracted with the buffered salt solution.

Products marked (12) are prepared in the following manner: The fiber is extracted with 0.2 per cent. sodium hydroxide at 65 C. for four hours, filtered, and precipitated with acetic acid. The precipitate is dried, powdered, and extracted with the buffered salt solution.

The products marked (13) are prepared in the following manner: A sterile serum of the blood of horses is passed through a Berkefeld filter.

Protein Extracts-Mulford are tested and standardized in terms of "protein units." The unit is fixed at 0.001 Mg. protein. The amount of protein per Cc. is determined by the Kjeldahl method. The amount of nitrogen found is multiplied by 6.25, and the result divided by 0.001 to obtain the number of protein units.

**INSULIN-SQUIBB** (See New and Nonofficial Remedies, 1925, p. 174).

The following dosage forms have been accepted:

*Insulin-Squibb, 10 Units, 10 Cc.:* Each cubic centimeter contains 10 units.

*Insulin-Squibb, 20 Units, 10 Cc.:* Each cubic centimeter contains 20 units.

*Insulin-Squibb, 40 Units, 10 Cc.:* Each cubic centimeter contains 40 units.

*Insulin-Squibb, 80 Units, 10 Cc.:* Each cubic centimeter contains 80 units.

**NEO-SILVOL** (See New and Nonofficial Remedies, 1925, p. 379).

The following dosage forms have been accepted:

*Neo-Silvol Ointment 5 Per Cent.:* Neo-Silvol, 5 per cent., in a base composed of glycerin and benzoinated lard, hydrous wool fat and petrolatum.

*Neo-Silvol Vaginal Suppositories:* Each suppository contains neo-silvol, 0.4536 Gm. (7 grains), in a base composed of gelatin, glycerin and water.

**MERCUROSAL** (See New and Nonofficial Remedies, 1925, p. 234).

The following dosage form has been accepted:

*Mercurosal Solution:* Each cubic centimeter contains mercurosal, 0.025 Gm. (1/48 grain), in distilled water containing 0.1 per cent. of sodium citrate.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, SEPTEMBER 5, 1925

## CAN MONILIA DO HARM?

The announcement nowadays of some specific agent as the cause of a familiar disorder calls for courage and conscience on the part of the person who makes the announcement, and a critical attitude on the part of the medical profession. The reasons for this have been made apparent by the history of research in the etiology of disease. Inadequate and ill founded evidence, enthusiastically proclaimed without due regard to the rigorous proof that scientific demonstration should represent, and hastily accepted by the uncritical or the gullible, has furnished the occasion for many unwarranted hopes, with consequent disillusionments and bitter disappointments. One need merely recall the history of the study of yellow fever and the various bacteria that were endowed with etiologic powers only to be disclaimed almost as soon as they were acclaimed. As the cause of pellagra, harmful micro-organisms, toxic chemical agents, and deficiencies in the diet have been put forward. Even goiter has not been exempt from inclusion in the category of maladies of microbiotic origin. Whatever remains obscure provokes the search for the inciting germ. There is nothing essentially ridiculous or unwarranted in this; for the accumulated verified experience of medicine has demonstrated the triumph of bacterial etiology in many obscure maladies. The scientific features of modern medicine are nowhere more graphically illustrated than in the conquest of the infectious diseases. And now, as if a thousand known species of bacteria were not enough to furnish the harmful parasites on man and producers of disease, the investigators are searching out other lowly forms—protozoa and fungi and what not—to discover new malefactors responsible for the mysteries of disease.

In the stools of a large percentage of patients with psoriasis, Fleisher and Wachowiak[1] of the St. Louis University School of Medicine have found *Monilia* or monilia-like organisms. In some instances these forms were found in the blood, and more often in cultures made from the scales. It is reported, furthermore, that *Monilia* is not normally present in the blood and on the skin of unexposed portions of the body, and that this organism occurs in the feces in only a relatively small percentage of normal persons.

Monilia-like organisms were found in 85 per cent. of the stools of persons with psoriasis; similar or identical organisms could be cultivated or demonstrated in the skin scrapings in 35 per cent., and these organisms were present in the blood in 14 per cent. However, in normal persons such organisms were found in only 6 per cent. of the stools, and never on the skin or in the blood. *Monilia* is not a new suspect, having been accused of sinister relations in sprue. It is often difficult to distinguish between chance concomitant parasitism and universally dominant causation in the case of such invaders. Fleisher and Wachowiak assert, however, that the injection of an emulsion of the killed organism led, in a certain number of intractable cases, to a startling and rapid clearing of the lesions. More recently, Fleisher[2] has observed that inoculation with *Monilia* from patients may stimulate the epidermis to an activity which at least in part simulates that noted in psoriasis.

In all fairness, even a skeptical student must welcome every new observation that may bear on obscure dermatologic lesions. The St. Louis investigators frankly admit the possibility that the cause of psoriasis is not inherent in one factor alone. It may well be that constitutional factors, processes of sensitization to a particular agent, as well as the invasion by a specific organism, must be combined in a person in order that the lesions may appear. If *Monilia* is of importance in the causation of psoriasis, as is suggested, then the fact that the organisms are so constantly found in the feces in such cases suggests the possibility of an enteral sensitization. Even though the problem of psoriasis remains unchanged, it is worth while to know more about *Monilia* and its possibilities.

1. Fleischer, M. S., and Wachowiak, Marian: Monilia as a Possible Etiologic Factor in Psoriasis, Arch. Dermat. & Syph. 11:756 (June) 1925.

2. Fleisher, M. S.: Effects of Inoculating Monilia Isolated from Psoriatic Patients into Human Beings, Proc. Soc. Exper. Biol. & Med. 22:477 (May) 1925.

## PROTEIN AND IMMUNITY

Whether immunity can be obtained to anything but foreign proteins is a question that has not lost its interest for immunologists. While the view most generally supported is that most, if not all, antigenic substances are proteins, some investigators maintain that immunization with various fatty mixtures, believed to be devoid of protein, leads to the development of specific antibodies in the blood of the immunized animal and that these antibodies react readily with the fatty materials used for immunizing. Some go so far as to suggest that the lipoids are even more important as antigens than the proteins, and the followers of

Much are enthusiastic advocates of the value of the fatty materials of tubercle bacilli and other bacteria for immunizing purposes. Besides this, there is the reputed capacity of the body to protect itself against such relatively simple poisons as morphin, arsenic and alcohol, and many others. Increased resistance to such poisons is different, however, from immunity against bacteria or foreign proteins: it is at best of relatively slight degree, of brief duration, and not the result of the production of antibodies that can be demonstrated in the circulating blood. Of late there have been demonstrated also the existence in bacterial cultures, and sometimes in other cells, of substances which apparently are not proteins but which nevertheless react specifically with antibodies developed by immunization with the bacteria or cells from which these reactive substances are derived. Perhaps most striking of these is the carbohydrate material found in pneumococci by Heidelberger and Avery,[1] which reacts with antipneumococcus serum. These bacterial carbohydrates of themselves will not, however, incite antibody formation when injected into animals, and hence are not antigenic.

The difficulty in accepting the reports of the immunizing efficiency of substances devoid of proteins lies in the fact that small amounts of protein are not readily detected, especially in the presence of such complex mixtures as are usually used for immunizing, and that unbelievably small amounts of material may serve to secure active immunization of animals. The last fact has been shown with especial clearness by the observations of Florence Seibert[2] on distilled water. She had observed that many samples of distilled water cause febrile reactions when injected into animals or into man, and demonstrated that this depends on the growth of bacteria in the water after its distillation. It is self evident that the amount of nutriment present in recently distilled water cannot be enough to maintain a luxuriant growth of bacteria, and it is indeed difficult to believe that any appreciable number of bacteria can grow on such a barren soil, the sole nutrient materials of which are probably traces of ammonia and other gases absorbed from the air. Nevertheless, it was found that not only did these infected distilled waters often produce fever, but that they served as efficient immunizing antigens even after the removal of such bacteria as were present. Dr. Seibert filtered such fever-producing distilled water through porcelain to remove the bacteria, and found that as little as 20 c.c. of the bacteria-free distilled water served, when injected into rabbits, to cause the animals to produce specific agglutinins for the bacteria that had grown in the water, the serum being reactive when diluted as much as 1:8,000. Now this water contained only the minute traces of material that had been elaborated by bacteria growing for a short time in distilled water, and either secreted or set free from their bodies in a filtrable form, surely in most minute amounts. Analysis of this water showed it to contain only 0.000014 mg. of nitrogen per cubic centimeter, and the total amounts of solids present in even large volumes of this filtrate defied weighing. If amounts of substance as minute as this can serve efficiently to immunize an animal, it is certain that no investigator can be sure that the lipoids, or whatever materials he immunizes with, do not contain equivalent, or probably much larger amounts of protein, for these quantities are far below the range of delicacy of chemical tests for proteins. In view of the difficulty that exists in explaining how anything except proteins can exhibit the striking specificity that is characteristic of immunologic reactions,[3] such a graphic demonstration of the impossibility of excluding traces of unknown material, perhaps protein, sufficient to produce immunity, makes extremely doubtful the value of any supposed examples of immunity to substances other than those containing some protein.

1. Heidelberger, M., and Avery, O. T.: J. Exper. Med. **38**: 73 (July) 1923; **40**: 301 (Sept.) 1924.
2. Seibert, Florence B.: Am. J. Physiol. **71**: 621 (Feb.) 1925.

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## THE RELIEF OF DYSPNEA

Modern medicine aims not merely to relieve immediate distress or correct an obtruding defect but also to discover the underlying cause and to eradicate it. The ancient physician, Lee[4] has written, was content to observe phenomena as they existed under their natural conditions, to interpret them in accordance with a philosophical system, and to treat disease in the light of what his system and past experience had taught him. The modern physician does not rely on a philosophical system. Like his forerunner, however, he, too, observes phenomena under their natural conditions; but he goes further than this and alters the conditions, thus obtaining an alteration of the phenomena and a new standpoint from which to view them. He may apply to the cure of disease past experience, it is true, but it is past experience that has been put to the test of modern experiment. Moreover, Lee adds, by the aid of further experiment he pushes out into the unknown, sees disease from unusual standpoints, and devises new and hitherto unsuspected methods of dealing with it.

Hence it happens also that the physician of today is ever attempting a more rational therapy based on knowledge of etiology. Long familiar symptoms, such as pain and fever, are being analyzed scientifically in order to avert the need of relieving them purely "symptomatically," as is sometimes frankly said. This is true also of shortness of breath, or dyspnea, which Meakins has defined as "the consciousness of the necessity for increased respiratory effort." Means[5]

3. Wells, H. G.: J. Immunol. **9**: 291 (July) 1924.
4. Lee, F. S.: Scientific Features of Modern Medicine, New York, Columbia University Press, 1911.
5. Means, J. H.: Dyspnoea, Medicine **3**: 309 (Aug.) 1924.

has pointed out that the function of breathing goes on ordinarily without intruding itself into the field of consciousness. When, however, the respiratory organs encounter embarrassment in the performance of their task, not only do their movements enter the field of consciousness, but they enter it unpleasantly and produce discomfort; that is to say, dyspnea. Consequently, as Means expresses it, dyspnea will occur whenever the respiratory mechanism cannot with ease function to the extent required by the bodily processes. Furthermore, the management of dyspnea with intelligence calls for knowledge of "the factors that create a demand for pulmonary ventilation, and those which affect the efficiency of the bellows in meeting this demand." In other words, symptomatic treatment should be based on the known pathologic physiology.

From this standpoint, various indications for the management of dyspnea can now be outlined with considerable confidence in their appropriateness. In the foremost place Means puts the reduction of the metabolic rate, because tissue respiration, or metabolism, is the prime determinant of the body's demand for pulmonary ventilation. Hence the effectiveness of treatment by rest. As Means has outlined it, mere confinement to bed of course makes total metabolism closely approach basal and therefore greatly diminishes the work both of the heart and of the respiratory organs, and consequently the dyspnea. Morphin, by diminishing pain and restlessness, will act in a similar way. In the dyspnea of hyperthyroidism, with or without organic heart disease, those measures which reduce the hyperthyroidism and therefore the metabolism by the same token diminish or abolish dyspnea. The serum treatment of pneumonia, when successful in that it reduced fever and with it metabolism, would have a like effect on dyspnea.

Dyspnea is an expression of a shortage of oxygen supply to the tissues. This failure to meet the needs may be due to a deficiency in the oxygen carriers, the hemoglobin-bearing red cells. Such anoxemic conditions may be relieved by blood transfusion, as in severe anemia. Again, with cardiac dyspnea a slow blood flow and consequent retarded transport of oxygen are concerned. Here relief may be brought by such measures as rest and treatment with digitalis, which improve the muscular power of the heart. There are forms of anoxemia, as in pneumonia, that are relieved by oxygen therapy.[6] Finally, Means reminds us that the procedures which improve the mechanical action of the thorax or which remove mechanical hindrances should never be forgotten. These include proper position in bed—that is, an upright or semiupright position when orthopnea is present; comfortable and adequate support; also the relief of abdominal distention and of pleural pain. To look behind the scenes of the immediate distress and discover the conditions that are generating it becomes the foremost duty of him who would meet an always difficult problem with the resourcefulness of a trained mind.

6. Oxygen Therapy in Pneumonia, editorial, J. A. M. A. 85: 37 (July 4) 1925.

## IS MUMPS CAUSED BY A SPIROCHETE?

Mumps is one of the infectious diseases that is still of unknown origin. For some time it has been regarded by many as due to a filtrable virus present in the saliva of the patient. Martha Wollstein[1] found that intraglandular injections of filtrates of mouth washings from acute cases will produce typical parotitis and orchitis in susceptible animals. Moreover, not only are the saliva and affected glands of the inoculated animals virulent, but in passage through a series of animals the virus first increases and then decreases in virulence. Micrococci also have been described as the probable cause of mumps. Herb's[2] inoculations of animals, especially of dogs, with a gram-positive diplococcus produced swellings, secondary orchitis, and an opsonic index for this organism like that in mumps, which appeared to indicate a pathogenic rôle for this coccus. Results similar to these have been obtained recently with cultures of a spirochete and a symbiotic bacillus. Kermorgant[3] of the Pasteur Institute in Paris finds in the saliva from mumps patients a spirochete of extremely regular spiral form that is fairly easily grown anaerobically in a medium containing rabbit serum and horse corpuscles. Passage through mediums containing horse serum eliminates most of the contaminating organisms except a motile, gram-negative bacillus that seems to have a true symbiotic relation with the spirochete, perhaps by influencing the reaction of the medium.

The spirochete is ciliated and actively motile in young cultures, rotating about what may be considered the fixed axis of its coils, and also describing irregular movements common to most spirochetes. It resembles somewhat *Spirochaeta pallida* and *Spirochaeta cuniculi*, but they are not spiral and are soluble in saponin and evidently differ serologically. This organism multiplies by transverse division, sometimes regularly into typical spirochetes, sometimes irregularly into short forms and granular forms that are filtrable, that can produce typical spirochetes in cultures with the living symbiotic bacilli (dead bacilli or fluids in which they have grown are not sufficient), and that probably constitute a phase in the developmental cycles of the organism. This cycle corresponds well with peculiarities of subcultures, which grow best only when made at a period of about twenty-five to thirty days after the inoculation of the original culture.

1. Wollstein, Martha: An Experimental Study of Parotitis, J. Exper. Med. 23: 353 (March) 1916; A Further Study of Experimental Parotitis, ibid. 28: 377 (Oct.) 1918.
2. Herb, Isabella C.: Experimental Parotitis, Arch. Int. Med. 4: 201 (Sept.) 1909.
3. Kermorgant, Yves: Ann. de l'Inst. Pasteur 39: 565 (July) 1925.

Intratesticular and intraparotid injections of mixed cultures rich in spirochetes produce orchitis and parotitis similar both to the natural disease in man, and to the changes produced in animals by the use of saliva directly from mumps patients. Rabbits and monkeys both react; and, although no spirochetes were found in sections of the glands, cultures of them contained many spirochetes. Passage of the infection by the use of affected glands was accomplished, but with evidence of a weakened virulence. The incubation period after injections of cultures is only from two to four days.

Serum from convalescent patients after the third week agglutinates this spirochete in higher dilutions than it does other spirochetes, and their agglutination titer is increased noticeably by the sixth month. Serums from syphilitic patients and other antispirochete serums agglutinate the organism only slightly and have no effect on its symbiotic bacillus. Specific lysins are also present in serum of convalescent patients.

Attempts to vaccinate animals with old cultures containing forms of degeneration failed, but living cultures attenuated by the addition of horse serum seemed to produce immunity to subsequent inoculations with active virus. It is well to keep in mind the possible nonreceptive condition of the animal before either inoculation. Whether a protective and curative antimumps serum and an active vaccine can be obtained remains to be seen. The results of further work along this line will be awaited with much interest.

## *Current Comment*

### MORE STATE SOCIETY PROGRAMS

A few weeks ago THE JOURNAL commented on the unusual program arranged by the Wisconsin State Medical Society for its annual session.[1] Attention is now called to the special character of the program for the Michigan State Medical Society, whose meeting will be held in Muskegon, September 8-10. The sessions of this state meeting are divided into considerations of four general topics, including the history and examination of the patient, the kidney in its relation to disease, malignant diseases and infectious diseases. In developing this program, the committee has given the leading places almost wholly to physicians from outside the state who have given special attention to the topics concerned. Each of the subjects is considered fully from the point of view of each of the medical specialties particularly concerned in its care, such as medicine, surgery, pediatrics, gynecology, obstetrics, otolaryngology and public health. Of course, physicians who are members of the state society will discuss the papers that are presented and bring out by questioning points in which they are particularly interested. Those in charge of the preparation of the program were, no doubt, guided by the view that physicians within the state constantly have opportunity to hear the work of their own members, and that the state society meeting offers unusual opportunity for graduate instruction by those from a distance. A somewhat similar plan is that of the Utah State Medical Association, whose program appears in beautiful form. The session to be held in Salt Lake City, September 7-12, is planned distinctly for postgraduate instruction. The committee has been able to secure the cooperation of numerous authorities from neighboring states, as well as from a distance. The meetings are to be held in the University of Utah, and opportunity is given not only for numerous lectures on succeeding days by the authorities present, but also for continuous special clinics.

1. Unusual Program for Wisconsin State Meeting, Current Comment, J. A. M. A. **85**: 521 (Aug. 15) 1925.

### PAN-AMERICAN CONFERENCES

Two reports recently published bear testimony to the increasing value of the sanitary conferences held periodically by the twenty-one American republics. The latest conference was held in Havana a few months ago. One of the books[1] records the transactions of this meeting; the other,[2] a report of the Peruvian delegate to his government, emphasizes the sanitary ties uniting all the countries on the western continent, the purely American character of a number of problems and the need of an All-American policy to solve them. These meetings are an outcome of the Pan-American tendency developed by Secretary Blaine when in charge of our own Department of State. Their beginning may be traced to the efforts of former Surgeon General Wyman and a group of Southern sanitarians. The need of securing some uniformity in quarantine regulations, with the natural burden to an evergrowing commerce and passenger traffic, were practical considerations. Provision for the conferences was actually made by a resolution approved at the general Second Conference of the American Republics, assembled at Mexico City from October, 1901, to January, 1902. Seven Pan-American sanitary conferences have already been held, and each has to its credit some substantial accomplishment. At the first meeting in Washington (Dec. 2-4, 1902), an organization was perfected and sanitary cooperation made a tenet of Pan-American policy. The second (Washington, Oct. 9-14, 1905) completed the first Pan-American Sanitary Code, still in force. Out of the third meeting in Mexico (Dec. 2-9, 1907), the fourth at San José, Costa Rica (Dec. 25, 1909-Jan. 3, 1910), the fifth in Santiago, Chile (Nov. 5-11, 1911) and the sixth—delayed because of the war—in Montevideo (Dec. 12-20, 1920) evolved the present Pan-American Sanitary Bureau. The greatest achievement of the Havana conference (Nov. 5-15, 1924) was the revision of the Sanitary Code. On that occasion, the Cuban secretary of state aptly recalled that the Washington 1902 meeting was the first international

1. VII Conferencia Sanitaria Pan-Americana, Crónica Médico-Quirúrgica de la Habana, December, 1924.
2. Paz Soldán, C. E.: Al Servicio de la Higiene Americana, Lima, Biblioteca de "La Reforma Médica," 1925.

conference attended by the newly created republic of Cuba, and the subject most discussed there was the mosquito theory of yellow fever, which had been initiated by a Cuban and finally verified in the city of Havana. The Washington Sanitary Bureau provides both a clearing house and a bond to bridge the gaps between conferences. As emphasized by President Zayas, in closing the Havana conference, there is a common ground on which all American nations may well meet and work together—in the prevention of disease, in the suppression of epidemics, in curing illness. The mere realization of this one fact would amply justify the holding of such assemblies.

## THE DEPRESSOR SUBSTANCE IN HEPATIC TISSUE

In a recent issue of THE JOURNAL,[1] reference was made to the clinical studies of MacDonald and others in attempts to lower blood pressure by the use of liver extracts. The successful management of persistent hypertension presents a problem of such therapeutic difficulty that every prospect of attainment warrants careful consideration. Obviously, the use of crude tissue extracts, however potent they may be in the acute experimental test, is attended with great dangers. Protein effects, including a variety of anaphylactic manifestations, are always threatening; and, furthermore, the tissues yield a diversity of potent products that should not be injected indiscriminately into human subjects. It is fortunate, therefore, that biochemists have been attracted to the isolation of the alleged depressor principle. The latest investigators,[2] at the University of Western Ontario, appear to have demonstrated clearly that the substance is nonprotein in character. This is, of course, an advantageous finding. The active agent is soluble in 80 per cent. alcohol, can be separated from accompanying pressor substance, and can be further purified through its solubility in ether. According to the latest report, the principle thus refined depresses the arterial tension and maintains it at subnormal levels for a long time. Artificially induced hypertension similarly can be reduced to any desired level, in exprimental animals, depending on the dose. One cannot avoid the belief that progress in the possible control of clinical hypertension also is imminent. The magnitude of the problem has engrossed all thoughtful physicians. It has been stated, for example, that "hypertension ranks foremost among the causes of death in this country." Latterly we have even been led to believe that a large portion of our youth shows manifestations of unduly high arterial blood pressure. The studies of Diehl and Sutherland[3] at the University of Minnesota are, however, somewhat less disconcerting. They have found that when, among several thousand university students, precautions were taken to eliminate the influence of excitement, the calculated proportion of the entire group examined who showed secondary hypertension was 1.2 per cent.; transient hypertension, 5.4 per cent.; intermittent hypertension, 2.8 per cent., and persistent hypertension, 1.6 per cent. Nervousness and excitement seem to be most important factors in the production of transient hypertension in young persons. Apparently if these elements can be eliminated, the generally accepted standards for blood pressure are adequate. Such information is essential for the rational treatment of hypertension in the future.

1. Lowering the Blood Pressure with Liver Extract, editorial, J. A. M. A. 85:194 (July 18) 1925.
2. James, A. A.; Laughton, N. B., and Macallum, A. B.: Note on the Separation of the Depressor Principle from Hepatic Tissue, Science 62:181 (Aug. 21) 1925.
3. Diehl, H. S., and Sutherland, K. H.: Systolic Blood Pressures in Young Men, Including a Special Study of Those with Hypertension, Arch. Int. Med. 36:151 (Aug.) 1925.

## WHAT DO PHYSICIANS PRESCRIBE?

The impression seems to be prevalent, although without any definite evidence, that physicians are again tending to the prescribing of ready-made formulas, and that the art of pharmacy is becoming less and less a necessity as an accessory to modern medical practice. In this connection, it is interesting to observe the results of a survey recently made under the Commonwealth Fund. The investigators examined 1,000 prescriptions, selecting at random a hundred prescriptions from each of ten states. Of these prescriptions, 51.9 per cent. contained only official ingredients, 29 per cent. contained both official and nonofficial, and 19.1 per cent. contained only nonofficial ingredients. In a second study of these prescriptions, it was found that the number of ingredients included in the 1,000 prescriptions totaled 2,680; of these, 81.4 per cent. were official and 18.6 per cent. nonofficial. As the study progressed, the ingredients of 17,577 prescriptions were tabulated. These were found to contain 40,454 items, of which 77.8 per cent. were in the United States Pharmacopeia, 5.4 per cent. in the National Formulary, 6.8 nonofficial but not proprietary, and 10 per cent. proprietary. A study of 10,000 prescriptions showed that from 70 to 85 per cent. called for the skill of the pharmacist in their compounding. This investigation revealed clearly that the filling of prescriptions is not, as has been believed, largely a matter of transferring a proprietary or secret formula preparation from one container to another as was largely the case twenty years ago. The results are encouraging in their indication that physicians are holding in large measure to the ideals urged on them when students by their instructors and emphasized by the Council on Pharmacy and Chemistry.

**Regulation of Biologic Products.**—On account of the danger to the public of the exploitation of contaminated or inert biologic products used in the prevention and cure of diseases of man, Congress enacted a law, July 1, 1902, to regulate their preparation and sale in interstate traffic. Under this law, regulations are issued governing inspections of establishments, examinations of their products, issue of licenses, and compliance with adopted standards of purity and potency. This law is representative of the regulatory measures enacted in the interest of commerce and to safeguard life and health. Because of the biologic and unstable nature of the preparations, the law requires special scientific facilities for its enforcement. It is for this reason that the law is administered by the United States Public Health Service.—Kerr, J. W.: *Pub. Health Rep.* 40:1681 (Aug. 14) 1925.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

## ALASKA

**Physician Appointed to Game Commission.**—Dr. William H. Chase, Cordova, Alaska, for eight years a member of the Alaska Health Commission, has been appointed to membership on the first Alaska Game Commission by Secretary Jardine of the Department of Agriculture.

## ARIZONA

**Survey of Tourist Camps.**—With the cooperation of local health officers, the state board of health conducted a survey of tourist camps in Arizona. The survey showed that there were 109 camps, ranging in capacity from three to seventy-five cars and from eight to 250 persons. At the time of the issue of the bulletin of the state board of health (July), reports received showed that forty-five of the camps had attendants, thirty-one had buildings, eighteen baths, eleven tents, and sixteen screens. The water supply in thirty was municipal, in sixteen from shallow wells, in ten from springs, and in three was surface water. The milk supply was pasteurized in five camps, raw in thirty-nine, and canned in forty-four; only sixteen camps had flush closets. The health department is making an effort to improve the sanitation of tourist camps.

## COLORADO

**State Medical Meeting.**—The fifty-fifth annual meeting of the Colorado State Medical Society will be at Colorado Springs, September 29-October 1, the House of Delegates as usual meeting the evening before the general meeting begins. The general headquarters will be at the Antlers Hotel, and all the meetings will be in the Colorado Springs Auditorium. Among the visiting speakers will be Drs. Robert M. Lukens and William F. Moore, both of Philadelphia, "Bronchoscopy as an Aid in the Diagnosis and Treatment of Suppurative Diseases of the Lung"; Dr. George Draper, New York, "The Practical Value to Medicine of Studies in Human Constitution"; Dr. Harvey P. Towle, Boston, "The Relation of Diseases of the Skin to Metabolism." The various counties have arranged historical exhibits, in addition to which there will be scientific and commercial exhibits. There will be a smoker, September 29, a reception, September 30, and a banquet, October 1. The Ladies Auxiliary will have their annual luncheon, September 30. A novel feature arranged by the entertainment committee will be group round table luncheons arranged for surgery, internal medicine, pediatrics and obstetrics, and eye, ear, nose and throat.

## CONNECTICUT

**Clinical Congress of State Society.**—The Connecticut State Medical Society will hold a clinical congress at Yale University, New Haven, September 22-24. Subjects will be presented from the standpoint of diagnosis and treatment for the general practitioner, and among the speakers will be Dr. William H. Park, New York, "Toxin-Antitoxin"; Dr. David Riesman, Philadelphia, "The Acute Medical Abdomen"; Dr. Arthur L. Chute, Boston, "The Significance of Hematuria"; Dr. John O. Polak, Brooklyn, "The Conservative Treatment of the Toxemia of Pregnancy"; Dr. John H. Stokes, Philadelphia, "Neglect and Mistakes in the Diagnosis and Treatment of Syphilis"; Dr. Walter A. Bastedo, New York, "Intravenous Therapy"; Dr. James P. Erskine, New York, "Indications for Tonsillectomy"; Dr. Burton J. Lee, New York, "What the General Practitioner Should Know About Carcinoma of the Breast"; Dr. Francis C. Grant, Philadelphia, "Head Injuries"; Dr. Lewis A. Conner, New York, "The Use and Abuse of Cardiac Stimulants"; Dr. Henry G. Bugbee, New York, "Infections in the Urinary Tract in Children"; Dr. Philip D. Wilson, Boston, "The Treatment of Fractures"; Dr. Grover W. Wende, Buffalo, "Differential Diagnosis of the Commoner Skin Diseases from Syphilis"; Dr. Frank T. Fulton, Providence, R. I., "Painful Affections of the Heart"; Dr. Lawrence K. Lunt, Stockbridge, Mass., "The Treatment of Functional Nervous Disorders"; Dr. Ralph G. Stillman, New York, "Laboratory Procedures That Every Practitioner Should Know." President Angell will preside at an open meeting, September 22; there will be a theater party, September 23. Enrolment is open to all members of the American Medical Association for a fee of $10. The chairman of the enrolment committee is Dr. Robert L. Rowley, 79 Elm Street, Hartford, Conn.

## FLORIDA

**Hospital News.**—The new Duval County Hospital, Jacksonville, which is to be used exclusively for the treatment of the indigent sick, will be opened about Jan. 1, 1926. Dr. John E. Boyd is president of the staff and Dr. Robert H. McGinnis member of the board of control.

**Personal.**—Mr. C. R. Weirick, Fort Lauderdale, has resigned as district health officer of the state board of health with headquarters at West Palm Beach, and has gone to Washington, D. C.——Dr. William H. Grace has been appointed city physician of Fort Meyers and chairman of the board of health.——A. W. Ziebold, Miami, for several years assistant chief of the health division, has been appointed assistant to the director of public welfare.——Dr. Burdett L. Arms, Jacksonville, was appointed state medical officer at the meeting of the state board of health, Jacksonville, August 18.

## ILLINOIS

**Health Education at State Fairs.**—Five motor caravans, each with a medical and technical staff, left Springfield recently on a tour of instruction in public health to be given at the leading county fairs. Each unit is equipped with motion pictures and exhibits and prepared to perform physical examinations and medical tests.

**Proposed Antidiphtheria Campaign.**—In proposing a campaign to rid the state of Illinois of diphtheria in the next five years, the state commissioner of health said that in the last five years diphtheria had cost the people of Illinois about $7,000,000 in actual expense and had caused the death of 15,050 children and the illness of 67,729 persons.

**Tuberculosis Sanatorium.**—The cornerstone of the new Madison County Tuberculosis Sanatorium was formally laid, August 7. This, the fourteenth county sanatorium in the state, will accommodate 100 patients and cost $250,000; the building will soon be enclosed so that the work can be carried on without interruption during the fall. The board expects to admit patients early in January, 1926. A diagnostic tuberculosis clinic was held, September 2, at Edwardsville.

## INDIANA

**State Medical Meeting.**—The annual meeting of the Indiana State Medical Association will be at Marion, September 23-25. There will be a golf tournament on the first day, a smoker in the evening, and meetings of the House of Delegates, the council and Women's Auxiliary. The second day and the afternoon of the third will be devoted almost entirely to scientific work. Among the visiting speakers, in the preliminary announcement, are Dr. Frederick M. Allen, Morristown, N. J., "Nephritis, Hypertension and Arteriosclerosis"; Dr. Charles L. Mix, "Chronic Nephritis"; Dr. William S. Newcomet, Philadelphia, "Present Status of Radium Therapy"; Dr. Louis G. Heyn, Cincinnati, "Arthritis with Special Reference to Acute Rheumatic Fever"; Dr. Hanau W. Loeb, St. Louis, "Adventures in Otolaryngology"; Dr. Joseph D. Heitger, Louisville, Ky., "Fundamental Points in Ethmoid Paranasal Disease," and Dr. William W. Babcock, Philadelphia, "The Management of Septic Peritonitis."

## KANSAS

**Hospital News.**—The Santa Fe Hospital at Ottawa, of which Dr. Edward B. Gossett is surgeon in charge, will be closed after October 1. Work will soon start on the new $250,000 Santa Fe hospital at Albuquerque, N. M.

**Typhoid Outbreaks.**—Typhoid fever in epidemic form prevails in Kansas, according to the state board of health, fifty new cases having been reported in the week ending August 15. Fifty per cent. of the cases developed following vacations. However, the outbreak of twenty cases at Coffeyville was traced to a typhoid carrier employed at a dairy. The fifteen cases in children in Allen County, which have developed since July 4, were traced, it is reported, to ice cream eaten at a picnic; nine cases were reported from Allen County the week ending August 15, and eight cases from Sedgwick.

**Fitter Families Contest.**—Under the auspices of the Eugenic Society of the United States, a Fitter Families Contest will be held at the Kansas Free Fair at Topeka, September 14-19, the object of which is to apply the principles of heredity and scientific care which have revolutionized stock breeding to the human family. The method will be to study the family heredity by record and all the known facts about three immediate generations so as to show the traits of inheritance and furnish the basis of a permanent family history, and to examine the parents and children and record the results. The examination covers intelligence tests, physical examinations, health habits, and measurements; they will be conducted by specialists. Among the agencies cooperating are the state board of health, the University of Kansas and the State Teachers' College. The examinations are private and without cost, but appointments must be made in advance. Both parents and children must present themselves for examination, and grandparents, uncles and aunts may be examined, if desired. Each family attaining the standards set by the Eugenic Society of the United States will receive a Fitter Family trophy.

## LOUISIANA

**Personal.**—Dr. Oscar Dowling, New Orleans, for twelve years trustee of the American Medical Association, completed his fifteenth year of service as health officer of the State of Louisiana, August 29, and on September 1 was reappointed president of the state board of health by Governor Fuqua.

**Willard Centelever Located.**—Following his escape from the leprosarium at Carville, July 11 (THE JOURNAL, August 1, p. 363), Willard Centelever was located in Montgomery, Ala., August 16. Centelever told health officers, it is reported, that he had visited Chicago and other cities and that he was willing to return to Carville.

**Permanent Health Exhibits.**—The second floor of the building recently purchased by the state department of health at 520-522 St. Louis Street, New Orleans, will be used for the installation of health exhibits similar to those used in the health cars which tour the state. Motion picture equipment will be installed, and other equipment to illustrate lectures on public health.

**Certified Oysters.**—It was announced, August 24, that, beginning September 1, oysters shipped out of the state of Louisiana would be inspected and certified to under the joint supervision of the state board of health and the U. S. Public Health Service. Dr. E. H. Gage of the Public Health Service is in New Orleans to supervise the certification in accordance with plans made at recent conferences of health officials and producers and dealers in oysters. As a basis of certification the oysters must be gathered only from unpolluted beds, there must be a physical examination of those who handle the oysters and sanitary equipment provided to handle them for interstate shipments. The state board of health will equip a boat as a laboratory to test the oyster beds.

**Tulane Graduate School Reorganized.**—The chairman of the medical advisory committee of the board of administrators of Tulane University announced, August 22, the complete reorganization of the Tulane University Graduate School of Medicine, which becomes effective at the opening of the university, September 21. The curriculum embraces three-year courses for a specialist's degree; the six weeks review courses, which formerly made up the curriculum, will be given under the new system also, and clinical facilities will be increased by the addition of the Touro clinics. No credit was formerly given for work in the school; students at the conclusion of the new three-year course will receive the master and higher degrees. Dr. Edmund Denegre Martin will be dean and Drs. Robert C. Lynch, C. Jeff Miller, Pierre J. Kahle, Amédée Granger, Allan C. Eustis, Henry Daspit, Jr., Randolph Lyons and Alfred C. King members of the executive committee. The curriculum includes studies in medicine, surgery, gynecology, obstetrics, urology, eye, ear, nose and throat; other subjects will be added.

## MASSACHUSETTS

**Change of Address.**—The Boston Stammerers' Institute moved, August 28, to 624 Warren Chambers, 419 Boylston Street.

**Hospital Merger.**—The Framingham Hospital and the Union Avenue Hospital of Framingham have merged, according to the *Boston Medical and Surgical Journal*, under the name of the Framingham Union Hospital. An appeal will be made for funds to erect a new hospital building on the grounds of the Framingham Hospital.

**Society News.**—The Essex North District Medical Society held its quarterly meeting at the Danvers State Hospital, September 2, and was addressed by Dr. Albert M. Barrett, professor of psychiatry, University of Michigan Medical School, Ann Arbor; Dr. Charles F. Painter, Boston, "The Menace of Indifference"; Dr. Thomas J. O'Brien, Boston, "Medical Legislation," and Dr. John M. Birnie, Springfield, "The Medical Registration Laws of Massachusetts."

## MICHIGAN

**Hospital News.**—Plans have been drawn for a new $130,000 contagious and psychopathic unit for the Highland Park General Hospital, Highland Park.

**Personal.**—Dr. Marie Keilin, for several years resident pathologist and roentgenologist at the Hackley Hospital, Muskegon, resigned, effective September 15.——Dr. Edward Martin, Detroit, has again assumed the editorship of the *Bulletin* of the Wayne County Medical Society.

**State Medical Meeting.**—Speakers at the annual meeting of the Michigan State Medical Society, Muskegon, September 8-10 (THE JOURNAL, August 22, p. 617), will include Dr. George W. Crile, Cleveland, who will discuss "The Contact of the Surgeon with the Problem of Cancer"; Dr. Channing W. Barrett, Chicago, "Cancer in the Field of the Gynecologist"; Dr. Aldred S. Warthin, Ann Arbor, "The Cause and Prevention of Cancer"; Dr. Howard P. Doub, Detroit, "Roentgenotherapy and Reduction in the Treatment of Cancer"; Dr. Henry F. Helmholz, Rochester, Minn., "Infectious Diseases and the Health of the Adult in Recent Years"; Dr. Perry G. Goldsmith, Toronto, "Infections of the Middle Ear"; Dr. Ralph H. Major, Kansas City, Mo., "The Classification, Recognition and Treatment of Chronic Nephritis"; Dr. Solomon Strouse, Chicago, "The Problem of Cancer as Met by the Internist"; Dr. John G. Huizinga, Grand Rapids, Mich., "The Conservation of Vision in School Children"; Dr. Clarence L. Starr, Toronto, "The History and Examination of the Patient from the Surgical Point of View"; Dr. Roger S. Morris, Cincinnati, "The History and Examination of the Patient from the Medical Point of View"; Dr. McKim Marriott, St. Louis, "Acute Nephritis in Children and Relation of Childhood Affections to the Kidney in Adult Life," and Dr. John B. Jackson, Kalamazoo, "Clinical Conferences."

## MISSISSIPPI

**Hospital News.**—The campaign for funds for building the new King's Daughters' Hospital, Greenville, has been successful, and the general committee in charge of the building fund and the building has accepted the report of the subcommittee on location to build the new hospital adjoining the present one, which will be used as a nurses' home and school.

## MISSOURI

**Personal.**—Dr. Garrett Hogg has been appointed city physician of Springfield, to succeed Dr. George W. Hogeboom, resigned.

**Kindergarten Regulation.**—The board of education of Kansas City has adopted a regulation requiring that all children preparing to enter kindergarten must register their birth certificates at the office of the board of health.

**Health Director Overruled.**—The city counselor of Kansas City has ruled that osteopaths shall be permitted to examine food handlers and certify as to their freedom from contagious disease. The health director of the city, following the enactment of a recent ordinance requiring the examination of food handlers, had refused to accept certificates made by osteopaths (THE JOURNAL, August 22, p. 167).

## MONTANA

**Hospital News.**—The recent earthquake in Montana damaged the hospital for the insane, at Warm Springs, to the extent of $3,500.

**Personal.**—Dr. George A. Townsend, for fifteen years associated with the hospital at Chico Hot Springs, has retired from practice and severed his connections with that institution on account of poor health.

**Fewer Cases of Rocky Mountain Spotted Fever.**—According to the state department of health, there were twenty-nine cases of Rocky Mountain spotted fever with eight deaths in Montana in the first six months of this year, whereas in

the corresponding period of 1924 there were thirty-seven cases with seven deaths. For the first time since records have been kept, no deaths occurred from this disease in Ravalli County, in which part of the state control work is being done by the state board of entomology.

## NEBRASKA

**Physician Arrested.**—Dr. Charles E. Barnes, Omaha, was recently arrested, it is reported, by federal narcotic agents on a charge of violating the Harrison Narcotic Law.

**Opposition to Tuberculin Test.**—According to *Science Service*, contributions from farmers throughout Nebraska are being made toward a fund to test their rights under the Nebraska law for the eradication of tuberculosis in live stock.

**Professors Appointed.**—Dr. Aura J. Miller, a Fellow of the National Research Council, has accepted an appointment as assistant professor of clinical pathology of the University of Nebraska School of Medicine, and Dr. Frank L. Dunn as assistant professor of experimental medicine in that university.

## NEW HAMPSHIRE

**Licenses Required for Camps.**—The 1925 legislature passed a law requiring that all camps which cater to persons under the adult age must be licensed, and that a license be granted only after an inspection by the state board of health. This tour of inspection of camps has been completed. There were 150 camps in the state subject to the license law, eighty-seven of which were boys' camps and sixty-three girls' camps. Only two were refused a license, and these temporarily, as conditions were immediately improved. According to a tentative system of rating, 35 per cent. of these camps were excellent, 50 per cent. good, and 15 per cent. fair. It was considered in approaching a camp that there must be (1) an adequate and safe water supply; (2) a clean, safe milk; (3) satisfactory disposal of waste material; (4) a healthful site, and (5) sanitary preparation of food. Among other things found was the use of lead pipe for water supplies, which in two camps came through a half mile of lead pipe. Both of these supplies were condemned, and lead pipe in even the smallest amount in other camps was ordered removed.

## NEW JERSEY

**Personal.**—The governor has reappointed Dr. Charles A. Groves, East Orange, a member of the New Jersey State Board of Medical Examiners.——Dr. Walter E. Cladek has been appointed school medical inspector for the city of Rahway.

**Social Hygiene Lectures.**—The venereal disease control bureau, state department of health, gave twenty-two lectures in May to groups ranging in number from ten to 260, some of which were women's clubs and study groups, mothers' clubs, and nurses groups; while it is not the policy of the bureau to supply speakers to audiences of less than twenty-five persons, the exceptions were made because of special studies by these small organizations.

## NEW MEXICO

**New Child Labor Law.**—The last session of the legislature of New Mexico enacted a new child labor law which requires children who work to have "labor permits." Permits will be issued by school superintendents in cities of 2,000 and more population, and by county school superintendents in other cases. According to the law, labor permits may be issued to children under 14 years of age during school vacation; to a minor more than 14 and under 16, permits may be issued during the school term if the income is necessary to support self, family or dependents. It is necessary before issuing permits to show that the child is in good physical condition and that the work to be performed is not such as would injure his health, morals or mental development.

## NEW YORK

**Personal.**—Dr. Tivader Hervizy, district state health officer at Boga, Hungary, has been making a study of health administrative methods in the state department of health, under the auspices of the Rockefeller Foundation.

**Jamestown and Sewage Disposal.**—Following a suit for damages in the case of *Forbes* v. *the City of Jamestown* (THE JOURNAL, June 20, p. 1927), the voters of that community approved, July 27, a bond issue of $125,000 for the construction of a sewage disposal plant. For many years the city and certain villages have discharged raw sewage into Cassadaga Creek and its tributaries.

**Annual Course for Health Officers.**—Under the joint auspices of the state department of health and the Albany Medical College, a course of instruction for health officers in the vicinity of Albany, comprising twenty-five days of teaching with forty-one instructors and sixty-one lectures, clinics and demonstrations, was recently closed. Dr. Charles C. Duryee directed the course, and twenty-two health officers were graduated.

**Instruction in Tuberculosis.**—Another class in tuberculosis, authorized by the Suffolk County Medical Association, will start in September, and the series of classes will continue, says the *New York State Medical Journal*, until every physician in the county has had an opportunity "to learn tuberculosis." Dr. Edwin P. Kolb, superintendent of the Suffolk County Tuberculosis Sanatorium, conducted the first class, which met Wednesday afternoons in July.

### New York City

**New Clinics.**—The Hospital for Ruptured and Crippled has opened new clinics in its outpatient department as follows: (1) the orthopedic and hernia departments, clinics at 7 p. m., Tuesday and Wednesday; (2) the physiotherapy clinics, 7 p. m. Tuesday, beginning September 15, and (3) the arthritis clinics at 9 a. m., Tuesday and Friday, beginning September 11.

**Personal.**—Dr. Fred H. Albee left, August 29, for Amsterdam, Holland, to attend the Fourth International Medical Congress of Industrial Accidents and Diseases, which meets September 7-12. Dr. Albee is American president to the congress.——Dr. Rowland G. Freeman and Louis I. Dublin, Ph.D., addressed the first General Congress on Child Welfare, Geneva, Switzerland, August 23-28, on "The Question of Nourishment" and "The Unification of Statistics on Prenatal Mortality," respectively.——Dr. Erik Vollmond of Denmark, who has been engaged in study at the Rockefeller Institute of Medical Research for the last year, returned to Copenhagen, August 22.

## NORTH CAROLINA

**Society News.**—Dr. Wayne A. Rupe of the department of pediatrics, Washington University Medical School, St. Louis, addressed a public meeting in Goldsboro, August 20, under the auspices of the Wayne County Medical Society.

**Waiting List at State Hospital.**—The directors of the North Carolina State Sanitarium for Tuberculosis have announced a definite policy of retaining no patient in the institution for a period longer than eighteen months from admission, on account of the necessity of making room for other applicants. There is a waiting list now of more than 140 applicants.

**Control of Midwives.**—In an attempt to instruct midwives a system of licensing, dependent on instruction, is being undertaken in the counties of Wayne, Pitt, Richmond, Sampson, Edgecombe, Robeson and Beaufort. There were 83,667 births in the state in 1923, and 27,791, or 33 per cent., of them were attended by midwives. Of the white babies born, midwives attended 16 per cent.; of the colored babies born, midwives attended 72 per cent.

## OHIO

**Physician Honored.**—A public reception was held in the village of Montgomery on the outskirts of Cincinnati, August 16, in honor of Dr. Charles W. Ekermeyer, who has practiced medicine in that community for forty-seven years. Dr. Ekermeyer was presented with a purse of $1,000 and an automobile.

**Tuberculosis Hospital.**—The county commissioners of Stark County have decided to provide funds for the erection and equipment of the necessary buildings for a county tuberculosis hospital, to be erected on the Martig site; in accordance with regulations, the state director of health has approved the action of the commissioners. A proposed bond issue of $150,000 for this purpose will be submitted to the voters.

**Personal.**—Dr. Clealand A. Sargent of Whitefield, N. H., has taken up his duties as district health supervisor with the state department of health, to succeed Dr. Edward J. Schwartz, who is now with the Florida state department of health.——Dr. Anderson L. Smedley has been appointed temporary health commissioner of Hamilton, to succeed Dr. Martin F. Vereker.

**Hospital News.**—Dr. Glenn G. Edwards, Willard, has been elected president of the Willard Community Hospital Asso-

ciation, which is raising funds to take over the Blaine Hospital.——Jefferson County has arranged to share the new tuberculosis sanatorium built by Belmont County.

## OREGON

**Personal.**—Dr. Osmar K. Wolf has resigned as health officer of Woodburn and has gone to Germany for postgraduate study.

**Hospital News.**—The new Wesley Hospital at Marshfield was opened, July 13, the opening being advanced on account of the urgent need of the hospital. Dr. Leslie G. Johnson, Marshfield, is president of the staff, and Dr. George E. Dix, Marshfield, vice president.

**Society News.**—Dr. William T. Phy, Hot Lake, has been appointed president of the Eastern Oregon Medical Society; Dr. Edwin G. Kirby, La Grande, vice president, and Dr. Carl J. Bartlett, Baker, secretary-treasurer. Among others who addressed the annual meeting at Wallowa Lake was Dr. Richard B. Dillehunt, dean of the University of Oregon School of Medicine, Portland.

## PENNSYLVANIA

**Law to Aid Subnormal Children.** — The Pennsylvania Assembly, at its last session, passed the Lanius bills, which amended section 1413 of the school code. The new measures require that all children of school age having physical or mental handicaps shall be cared for in special classes, and where there are not enough such children in a school district to warrant the establishment of a special class of at least ten children, the handicapped children must be sent to approved classes or institutions outside the district, unless their parents procure for them proper instruction at home or elsewhere. When children are taught in special classes or institutions outside the district, the cost of tuition is divided, 25 per cent. to be paid by the district of their residence, and 75 per cent. by the commonwealth.

**Smoke Prevention Ordinance.**—For about ten years, the city of Pittsburgh has had an ordinance which prohibits "the production or emission within the city of smoke, the density or shade of which is equal to, or greater than Number three of the Ringlemann Chart, from any stack, except that of a locomotive or steamboat, for a period, or for periods aggregating two minutes or more in any period of fifteen minutes, and the emission of such smoke from any locomotive or steamboat for a period or periods aggregating one minute or more in any period of eight minutes, except for a period not to exceed twenty consecutive minutes, not to exceed once a day, while a new fire is being built therein." Since this ordinance became effective the tar content of the solid material deposited from the air in Pittsburgh has decreased about 70 per cent. A survey completed by the Mellon Institute in 1924 showed, however, that the total solid material not under the control of the ordinance had increased 39 per cent.

**Health Cars.**—Thousands of children have been examined this summer by the state health department staff attached to the mobile health unit, which includes physicians, dental hygienists and nurses. The parents of children who needed medical attention were referred to their family physician. ——The traveling laboratory devised to protect the water supply used by motorists in Pennsylvania has covered much of the main highway systems and many miles on less frequented roads this summer. Private water supplies tested by department personnel were placarded as safe when they met approved standards. Certificates signed by the secretary of health attesting to this fact were issued to the owners of these supplies. Springs and wells not approved were so marked.——A mobile milk laboratory was on the road during the summer, testing chemically and bacteriologically remote sources of milk supplies which do not find their way into pasteurizing plants. The sanitary care of milk was explained to the individual dairyman.

### Philadelphia

**Personal.**—Dr. Leopold S. Vaccaro, an instructor in the University of Pennsylvania School of Medicine, who is in Rome in the interest of the Sesqui-Centennial Exposition, has received the honorary degree of doctor of medicine from the University of Rome.

**Byberry Buildings Dedicated.**—The group of buildings at Byberry for the Institution for the Feeble-Minded, costing about $2,500,000, has been formally dedicated. Dr. William Krusen, director of the department of health, presided at the exercises. The institution now has a capacity of 3,600 patients.

**Smallpox Quarantine.**—The first case of smallpox since last winter was discovered, August 25, in a negro who returned, August 18, from Denmark, S. C. As a result, the area from Thirty-Seventh Street to Saunders Avenue and from Filbert Street to Powelton and Lancaster avenues was placed under quarantine, and about 2,000 persons in the quarantine area were vaccinated.

## SOUTH CAROLINA

**Personal.**—Dr. Percy H. Brigham was reelected as health officer of Florence, July 1.——W. Frank Walker, Dr.P.H., New York, representative of the American Child Health Association, recently came to Columbia to make a survey of health conditions in the state.

## TEXAS

**Appointments at Dallas.** — Dr. Ralph W. Jenks, for two years assistant city health officer, has been appointed city health officer to succeed Dr. Price M. Walker, recently resigned; and Dr. W. R. McAdams, Jr., head of the Emergency Hospital, has been appointed assistant city health officer.

**Chiropractor Fined.**—F. M. Loughiller, a chiropractor of Bonham, is reported to have been found guilty by a jury of practicing without a license, and fined $50 and sentenced to one day in jail. As a result of the recent request of the state board of medical examiners for aid in enforcing the medical practice act, the state was assisted in this case by a representative of the Texas State Medical Association.

**Society News.** — Dr. James R. Bost, Houston, has been elected president of the Texas Society of Orthopedic Surgeons; Dr. Charles F. Clayton, Fort Worth, first vice president; Dr. Ernest P. Cayo, San Antonio, second vice president, and Dr. Benjamin L. Schoolfield, Dallas, secretary-treasurer. ——The Four-County Medical Society (Childress, Donley, Hall and Collingsworth) met at Memphis in Hall County, August 14. Among others, Dr. Charles M. Rosser of Dallas spoke on "The Menace of the Medical Underworld."

**Improvements in Sanitation.**—The state board of health notes that throughout Texas there is evidence of an increasing appreciation of sanitation in the number of plans for sewage disposal and water filtration plants submitted to the board for approval. Bonds have been voted for or elections have been ordered to approve bonds for water filtration plants for Beaumont, Big Spring, Calallen, Comanche, Dilley, Ennis, Grand Prairie, Goree, Houston, Hubbard, Harlingen, Jayton, Lometa, Lockhart, Lubbock, Loraine, Mabank, Mission, O'Donnell, Port Arthur, Pharr, Richardson, Rusk, San Antonio, Teague, Waco and Wichita Falls, and sewerage systems are now under construction or improvements contemplated at Bowie, Brownfield, Canyon, Crowell, Dallas, Ennis, Hamilton, Houston, Lubbock, Lufkin, O'Donnell, Port Arthur, San Angelo and Schulenberg.

## VERMONT

**Society News.**—Dr. James B. Herrick, clinical professor of medicine, Rush Medical College, Chicago, addressed the Rutland County Medical and Surgical Society, July 14, at the Green Mountain Club House in Sherburne on "Certain Practical Points Concerning Heart Disease." Among other guests were Dr. Bird J. A. Bombard, Burlington, and Dr. Oliver N. Eastman, associate professor of obstetrics, University of Vermont, Burlington.

## VIRGINIA

**Appointments to Board of Health.** — The city council of Danville has elected Dr. Samuel R. Newman, Dr. Richard W. Garnett, Dr. Charles W. Pritchett and Dr. Robert B. James members of the city board of health.

**Personal.**—Dr. H. T. Kennedy has taken up his duties at Eastville as health officer of Northampton County.——Dr. Charles F. Moriarty has arrived in Suffolk to take over the duties of director of health for the Nansemond County Board of Health, succeeding Dr. Warner H. Newcomb, resigned.

**Dr. Levy Goes to Tampa.**—Dr. Ernest C. Levy, Richmond, who was recently appointed full-time professor of preventive medicine at the Medical College of Virginia, has been given an indefinite leave of absence to accept the position of head of the health department of Tampa, Fla.

## WASHINGTON

**State Medical Meeting.**—Just previous to the annual meeting of the Washington State Medical Association at Seattle, the county health officers will meet at the Olympic Hotel, September 15-17. The Washington State Medical Golf Tournament will be held at the Inglewood Golf Course, Seattle, September 16. There will be a public health league luncheon and general meeting at noon, September 17, and a banquet at the Olympic Hotel that evening. The annual dinner-dance will be Friday evening. The program for the state meeting this year contains the reports of committees as authorized by the board of trustees (THE JOURNAL, August 22, p. 619).

## WEST VIRGINIA

**Typhoid Outbreak.**—The report of three cases of typhoid fever at Morgantown, August 15, brought the total number developed in that community in a few days to thirty-four, which equals the total number of cases previously reported in the last three years. Dr. James G. Townsend of the United States Public Health Service is investigating the outbreak.

**Personal.**—Dr. Benjamin O. Robinson, Parkersburg, and Dr. Hugh A. Barbee, Point Pleasant, have been appointed members of the state public health council, and Dr. Harry G. Camper of Welch has been reappointed to the council.—— The governor has named Dr. Constantine C. Barnett, Huntington, as superintendent of the new state hospital for the colored insane at Maggie.

**Regulation of Midwives.**—A law passed by the last legislature provides for the instruction, examination, licensing and registration of midwives, and a survey has been started which will list midwives in the state. A midwife must now be of a certain age, able to read and write, and attend instruction school or submit evidence of being qualified. The state department of health will then issue annually a license. Classes of instruction for midwives will be established. West Virginia is the thirty-seventh state to provide regulation for the practice of midwifery.

**Fraudulent Diploma Law.**—Another new law provides a penalty of confinement in the state penitentiary for a period of not less than one year nor more than three for any person who shall make or publish for the purpose of selling or giving away a diploma which falsely represents the holder to be a graduate of any medical school or medical educational institution. Any person who offers to dispose of such diploma or uses his name or permits it to be used as a subscriber to such false diploma, or engages in the practice of medicine by virtue of such diploma, shall be guilty of felony. The law provides, further, that in addition to confinement in the penitentiary the person convicted may be fined not less than $100 nor more than $1,000.

**West Virginia Admitted to Registration Area.**—In 1920, the state health commissioner started an educational campaign for a model law on reporting births and deaths, with the result that the present vital statistics law was passed the next year. In 1923, an examination of records by the federal government was requested in the hope that West Virginia would be admitted to the registration area. The examination showed that only 78 per cent. of the births were being recorded. The state health department then employed an agent to stimulate reporting. In examining the records again this year, the Census Bureau sent out about 300,000 postcards asking persons to report any birth or death that occurred in their family in the last year; it was found that at least 90 per cent. of these reports were on file in the state department of health, and West Virginia has been admitted to the birth and death registration areas for 1925.

## WYOMING

**State Society Adopts Colorado Medicine.**—The Wyoming State Medical Society has adopted *Colorado Medicine* as its official journal. The secretary, Dr. Edwin Earl Whedon, Sheridan, will edit the Wyoming section.

## CANADA

**Personal.**—The honorary degree of LL.D. has been conferred on Dr. John J. R. MacLeod, professor of physiology, University of Toronto, by the University of Aberdeen.——Dr. Alexander D. Blackader, Montreal, has been appointed editor of the *Journal of the Canadian Medical Association*, and Dr. Alfred T. Bazin, managing editor.

**Society News.**—At the eighteenth annual meeting of the Saskatchewan Medical Association, Dr. William A. Harvie, Regina, was elected president to succeed Dr. Thomas W. Walker, Saskatoon, who was chosen honorary president for the coming year. Drs. Robert R. Stirrett, Swift Current, and Leonard A. C. Penton, North Battleford, were elected vice presidents. Dr. Alexander MacG. Young, Saskatoon, was reelected secretary-treasurer. The next meeting place will be Saskatoon, in June, 1926.—— Dr. Newton A. Powell, Toronto, recently addressed the Lincoln County Medical Association on "The Medical Witness."

## PHILIPPINE ISLANDS

**Report on Treatment of Leprosy.**—Among 2,810 patients receiving antileprosy treatment at Culion Leper Colony, 9.7 per cent. of the cases became negative, 62 per cent. were improved, 15.6 per cent. were stationary, and 12.6 per cent. were worse, according to the fourth progress report published in a bulletin of the Philippine Health Service. From May, 1921, to Oct. 31, 1924, 405 lepers at Culion were declared negative, and, at the time of this report, there were about 300 other cases considered negative by the attending physicians to be presented to the Negative Examining Committee. The best results have been obtained with the iodized chaulmoogra ethyl esters; the creosoted preparations also gave better results than the plain ethyl esters. There are two totally dissimilar groups of patients that respond favorably to treatment: (1) those who have had the disease less than five years, and (2) those who have had the disease twenty years or more. It was necessary, on account of complications, to drop 350 patients from the treatment clinics in the six months preceding this report. The main causes for suspending treatment were tuberculosis, protracted lepra reaction, and leprotic involvement of the eyes.

**Tuberculosis Increasing.**—The executive secretary of the Philippine Islands Anti-Tuberculosis Society says that tuberculosis mortality in that country is increasing. There were 29,752 deaths due to tuberculosis in 1920, or about 297 per hundred thousand of population. There are about 350 beds in both public and private institutions in the islands to care for about a half million consumptives, 150 of which are in the city of Manila for advanced cases, fifty at Baguio for incipient cases, a small number at Cuyo, and the antituberculosis society maintains a colony of twenty two-bed cottages for incipient cases and two forty-bed infirmaries for advanced cases. The antituberculosis society aims to cooperate with the government in solving the tuberculosis problem. The secretary believes that, in view of the lack of understanding of the disease on the part of the public and the "ready-made" excuse of lack of funds on the part of the legislature, the best means to demonstrate what can be done is to give a demonstration similar to that conducted by the National Tuberculosis Association in the United States at Framingham, Mass.

## GENERAL

**Subscription Price Increased.**—The *Journal of Laboratory and Clinical Medicine* announces that its subscription price will be increased from $7 to $8.50 a year, beginning with the October issue.

**American Board of Otolaryngology.**—The next examination given by this board will be held at the Cook County Hospital, Chicago, October 19. Application should be made to the secretary, Dr. Hanan W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

**Society News.**—The thirty-eighth annual meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons will be at Hot Springs, Va., September 16-18. Among the speakers will be Drs. Palmer Findley, Louis E. Phaneuf, John F. Erdmann, Edwin P. Sloan, Walter T. Dannreuther, George F. Chandler, Ira L. Hill, John H. Outland, Edward L. Dorsett and William S. Bainbridge.

**Accidents in Industry.**—The Department of Commerce announces that there were twenty-four deaths and 1,645 injuries in 1924 among persons engaged in the manufacture of coke in the United States, a lower death and injury rate for that industry than in any other year. There were 20,451 men employed in making coke, who worked an average of 303 days per man. The loss of time from all fatal and nonfatal accidents at coke ovens was estimated by the Bureau of Mines as 195,248 days.

**Hospitals in Foreign Lands.**—The Board of Foreign Missions of the Methodist Episcopal Church administers thirty-five hospitals in foreign lands, which in 1923—the last year for which figures are available—cared for 12,961 patients, 12,334 outpatients and 145,334 dispensary first calls. In hos-

pitals administered by the Women's Foreign Missionary Society of this church, there were 16,550 patients, 6,346 outpatients and 93,941 dispensary first calls; hospitals of this church in the United States served 250,000 people, making a total of 537,446. Hospitals and dispensaries in foreign lands are conducted in Africa, Mexico, Chile, India, Netherlands, Korea, Philippine Islands and in eastern, northern, western and southern China.

**Death of Professor Chandler.**—Charles F. Chandler, emeritus professor of chemistry at the New York College of Pharmacy, the College of Physicians and Surgeons and the School of Mines at Columbia University, died at Hartford, August 25, of nephritis, aged 88. Dr. Chandler was for forty-four years an active member of the faculty of the New York College of Pharmacy, for many years its president, and was largely responsible for its consolidation with Columbia University in 1904. He was chemist of the New York Board of Health from 1866 to 1873, and its president until 1884. Various institutions honored Dr. Chandler, among them Oxford University and the University of Göttingen; he was awarded the Perkin medal for valuable contributions to applied chemistry.

**Automobile Fatalities.**—The Department of Commerce has published the reports of automobile fatalities received from seventy-seven cities of 100,000 population or more. In thirty-six cities, there was an increase for the four weeks ending August 15 over the previous period of four weeks; in fifty-seven cities, aggregating a population of 27,000,000, there were 2,878 automobile fatalities from January 1 to August 15, as compared with 2,885 from Jan. 1 to Aug. 31, 1923; in sixty-six cities in which comparisons are possible for 1923 and 1925, thirty-six show more fatalities from January 1 to August 15 than in the first eight months of 1923. Norfolk, Va., had no fatalities in the last eight weeks covered by their report, and St. Paul, San Antonio, Dayton, Houston, Lynn, Waterbury and New Bedford reported none in the last four weeks. New Bedford, with two deaths, still holds the record for 1925. So far this year, New York has reported 559 deaths, Chicago 344, Philadelphia 173, Detroit 158 and Los Angeles 139.

**Fourth of July Accidents.**—The National Committee for the Prevention of Blindness and the American Museum of Safety have just issued a joint statement about the last Fourth of July accidents. Reports from 500 cities in thirty-six states were analyzed. There were 111 persons killed and 1,030 injured from the use of fireworks; of the injured, 148 will probably lose the sight of one or both eyes, seventy-nine lost an arm, leg or fingers, two lost their hearing, and one lost the power of speech. Of the 111 persons who died, thirty-seven were burned to death when their clothing caught fire from so-called "harmless" sparklers, other fireworks and bonfires; twenty-five deaths were due to tetanus following burns from blank cartridges, firecrackers and gunshot wounds, and nineteen persons were mutilated and killed by premature explosions; eight persons were shot, and six died of poisoning from eating firecrackers. The casualties were mostly in children in the smaller cities where fireworks are still being sold to children of any age. Reports were not received from twelve states, many of which are in the South, where there are few restrictions on the sale of fireworks. Were it possible to have obtained a complete report, it would have been found, the statement adds, that several hundred persons were killed and several thousand injured during the last Fourth of July celebration.

**Prevention of Delinquency.**—Under the auspices of the Commonwealth Fund Program for the Prevention of Delinquency, ten cities have just completed three-year demonstrations of "visiting teacher work" and have decided to continue to use visiting teachers as a regular feature of their public school system. The cities are Lincoln, Neb.; Richmond, Va.; Kalamazoo, Mich.; Sioux City, Iowa; Sioux Falls, S. D.; Burlington, Vt.; Hutchinson, Kan.; Warren, Ohio; Red Bank, N. J., and Bluefield, W. Va. Demonstrations are going on in twenty other communities which, when finished, will complete the Commonwealth Fund program of visiting teacher demonstrations. The visiting teachers were appointed by the National Committee on Visiting Teachers and approved by local authorities; two thirds of the salary of a teacher for a three year period was being paid by the National Committee, and the remainder by the local school board. Several hundred cities applied for demonstrations under this plan, but only thirty were selected. There are now 186 visiting teachers in the United States, in sixty-four cities and six counties in thirty-four states. The Joint Committee on Methods of Preventing Delinquency, New York, has just published a volume on "The Problem Child in School." The visiting teacher is considered a specialist in problems of unadjusted children. She finds out why things are not going right and informs the class teacher or parent or social agency. The first visiting teachers began work in New York, Boston and Hartford in 1906-1907; in 1921, the Commonwealth Fund included this work in its program for prevention of delinquency.

**Conference on Standardization of Tuberculin.**—A conference will be held at Washington, D. C., October 16, to consider the subject of fixing a definite standard for tuberculin. The conference is called by Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service, and will be attended by two members of the Rockefeller Institute, two from Johns Hopkins University, two from Harvard Medical School and two tuberculin specialists from the Department of Agriculture. The sole question to be considered by the conference is whether or not a definite standard for tuberculin may be established. Heretofore the opinion has been maintained by the Department of Agriculture that it is unwise to attempt to fix a special standard for tuberculin in the United States, because it is uncertain that any fixed standard would be correct; the department has attempted to establish certain policies for fixed control of tuberculin and has maintained certain methods to test the potency of tuberculin. The original proposal for standardization of tuberculin comes from the medical section of the League of Nations. The October conference at Washington on tuberculin is called with the approval of the American Tuberculosis Association, and it is understood that that organization, because of the importance of the subject matter to be discussed, has volunteered to pay the expenses of the conference. According to present arrangements, those attending the conference will be: Dr. Reid Hunt, department of pharmacology, Harvard Medical School; Esmond R. Long, Ph.D., University of Chicago; Dr. Ludvig Hektoen, John McCormick Institute, Chicago; Theobold Smith, Rockefeller Foundation for Medical Research, Princeton, N. J.; John R. Mohler, chief, bureau of animal industry, Department of Agriculture; E. D. Schrader, Dr. Marion Dorset, Dr. William Charles White and Dr. George W. McCoy, all of the Department of Agriculture, and Dr. Hugh S. Cumming.

## LATIN AMERICA

**Personal.**—Dr. J. Denegri, president of the Academia de Medicina of Peru, and Dr. Paz-Soldán, editor of the *Reforma Médica*, are organizing a postgraduate assembly at Lima, a kind of medical and clinical week.

**New Health Journal.**—The department of health of Porto Rico has announced the establishment of a monthly publication known as the *Porto Rico Health Review*. According to the U. S. Public Health Service, the first number describes the work done on that island in combating hookworm, tuberculosis, plague and venereal disease.

**Chair of Professional Ethics.**—The *Revista de la Asociación Médica* de Bahia, Brazil, reproduces an appeal by Dr. Varsi, member of the governing board of the Universidad del Litoral, for the foundation of a chair of professional ethics in the university. He explains how instruction and training in professional ethics are even more necessary than other chairs for preparation for practice.

## FOREIGN

**French Neurology Congress.**—The thirtieth annual meeting of the alienists and neurologists of French-speaking countries is to be held at Geneva and Lausanne early in August, 1926. "Schizophrenia" and "The Babinski Sign" are the two topics appointed for discussion. The secretary is Dr. Repond, Malevoz-Monthey, Switzerland.

**Medical Officer to Retire.**—Sir William H. Hamer, medical officer of health to the London County Council, and for thirty-three years connected with that office, is to retire to private life. He will carry with him, says the *Lancet*, the good wishes of all who know the efficiency of his work and who have experienced the courtesy of his methods.

**Report of the Netherlands Council on Pharmacy and Chemistry.**—In addition to reports of analysis of a large number of proprietaries, several household remedies in the East Indies have been studied, as also has the alleged action of *Polygonum aviculare* in combating diabetes. Extensive investigations were also made on the standardization of pituitary preparations, and on the influence of mercury on malaria,

especially in connection with malaria treatment of general paralysis.

**International Postgraduate Courses.**—International postgraduate courses in Berlin will be organized for October, with the active support of the faculty of medicine of Berlin University. There will be courses and practical exercises in all medical branches, a series of lectures in internal medicine, a systematic review of the progress of medicine and technic, and a postgraduate course for ophthalmologists. Correspondence should be addressed to the International Postgraduate Courses, Berlin N.W. 6, Kaiserin Friedrich-Haus.

**Measles Serum.**—The *Medizinische Klinik* quotes Dr. F. Rohr's description of the arrangements at Kassel for supplying physicians with convalescents' serum for the prophylaxis of measles. The attending physician sends to the Diagnostic Institute blood taken from his measles patients between the fifth and the twelfth day of convalescence. This is tested for hemolysis, then filtered, phenolized and kept ready for use. The unit of serum is 3.5 c.c., the amount necessary to protect against measles a child of 3½ at the fifth day of incubation. The injection of the serum is said to confer protection for months.

**Far Eastern Association of Tropical Medicine.**—The sixth congress of this association will meet in Tokyo, October 11-13, under the auspices of the Japanese government. The committee on beriberi, approved at the last congress in Singapore in 1923, and comprising a representative of each government interested, will report at this congress. There will be an exhibition of materials pertaining to the medical history of Japan, including species of parasites, medicinal plants, statistics, and instruments and apparatus manufactured in that country. The special subjects for discussion include the prevention and extermination of malaria, the diagnosis of amebic dysentery, the control of beriberi, and the compilation of statistics on tuberculosis.

**The International Gynecology and Obstetrics Foundation.**—The first international congress on gynecology and obstetrics was organized in 1892 by the initiative of the Société belge de gynécologie et d'obstétrique. A number of persons donated 300 francs each to promote these congresses, and this foundation now amounts to 30,000 francs, invested in Belgian government bonds. The income is to be used to pay the fees of the charter members and life members who have contributed to the foundation, and to award a prize at each congress for distinguished work in gynecology or obstetrics. The war interfered with the congress which had been planned at New York in 1915. The committee in charge of the fund is Prof. A. Martin, Berlin, Prof. L. Mangiagalli, Milan, and the Belgian Gynecology and Obstetrics Society, which has taken the place of the third member of the committee, Prof. C. Jacobs who died recently. The society is now the official guardian of the fund.

**Personal.**—The *Revista Española de Medicina* states that Drs. Lozano, Vecino and Pi Suñer have been appointed delegates from the University of Zaragoza to the approaching bicentennial of the Academy of Sciences at Leningrad.——The name of Dr. C. M. Cortezo has been given to the street on which he was born in Madrid. He is the director of the *Siglo Médico*, senator for life, and long member of the cabinet.——A tablet was recently unveiled on one of the principal streets of Valencia in honor of Dr. Ramón y Cajal, who shared with Golgi the Nobel prize in 1906.——Dr. T. Madsen of the Copenhagen state serum institute has been elected honorary member of the Belgian Académie de médecine.——The prize offered by the Berlin university for the best study of "The Diagnostic Import of the Blood Picture for Otogenous Affections" was awarded to Else P. Levy and to Eleonore von Balden. Each was given the full prize, which was duplicated by the authorities for the purpose.——A street in Brussels near the university has been renamed in honor of the late Prof. A. Depage.——Dr. H. Vincent, chief of the military medical service in France until his recent retirement, has been decorated as commander of the Order of the Crown of Belgium. He introduced antityphoid vaccination into Belgium.

### Deaths in Other Countries

Dr. **William W. Westcott,** one of the most active coroners of London and an authority of medicolegal matters, recently, aged 77.——Dr. **G. Urban,** Hamburg, surgeon in chief of the Marien Hospital.——Dr. **O. Naumann,** Berlin, long in charge of the university branch of the department of education, aged 74.——Dr. **Le Clerc-Dandoy,** professor of urology at Brussels and president of the Belgian Urologic Society.

# *Government Services*

### For Duty with Troops

The following officers of the Army Medical Corps who were excepted from duty with the troops, according to the *Army and Navy Journal,* are removed from the list: Lieut.-Cols. Charles R. Reynolds, Carroll D. Buck, Jacob M. Coffin, James D. Fife; Majors Lucius L. Hopwood, Henry C. Pillsbury, William H. Richardson, William K. Bartlett, Arthur P. Hitchens, William O. H. Prosser, Tom S. Mebane, Charles W. Sale, Raymond F. Longacre, Roy T. Morris, Peter D. MacNaughton, Arthur N. Tasker, Arnold D. Tuttle, Wibb E. Cooper, William L. Sheep; Capts. Frank McA. Moose, Arthur H. Nylen, Frank P. Strome, John L. Meddaugh, John B. Powers, Pernier A. Mix, Wilmer C. Dreibelbies, Hugh M. Bullard and James F. Brooke.

### Patients in Army Hospitals

There were 5,347 patients in army hospitals in the United States, August 8, according to the Surgeon General's Office, and of these 2,549 were on the active list of the army or navy; 1,980 were beneficiaries of the Veterans' Bureau, 125 beneficiaries of the Soldiers' Home, and 693 civilians, retired army and navy officers, dependents of officers, national guard and others; 3,720 of these patients were in general hospitals, including the Station Hospital, Fort Sam Houston, Texas, and of these more than 50 per cent. were beneficiaries of the Veterans' Bureau or Soldiers' Home.

### New Immigration Methods

Announcement is made by the U. S. Public Health Service that Surgeon Samuel B. Grubbs, chief quarantine officer located at New York, has been placed in charge of foreign quarantine and immigration for the U. S. Public Health Service. Dr. Grubbs will give special attention to the new policies of the government which include the medical examination of immigrants abroad which has recently been undertaken by the State, Labor and Treasury departments. He is qualified for this work by reason of long experience as chief quarantine officer at New York City, and the fact that he was previously chief health officer for Porto Rico. Dr. Grubbs has, at his own expense, traveled extensively in Europe to observe and study immigration and quarantine questions. He is an accomplished linguist, speaking Spanish, German and French. Reports from U. S. Public Health officials in Ireland, Scotland and England received by the Public Health Service at Washington, indicate that the new methods employed in the selection of immigrants abroad are meeting with success. The new plans permit the American consular officer, representatives from the U. S. Bureau of Immigration and medical officers of the Public Health Service to inspect immigrants about to proceed to the United States. These officials on interviewing prospective immigrants abroad are in position to select desirable men and women to proceed to the United States; such persons, in the opinion of government officials, will make more acceptable American citizens than those selected under the methods of inspection and medical examination at Ellis Island, New York.

### Change of Station in the Navy

The Bureau of Medicine and Surgery of the navy has recommended the transfer of Commander Richard A. Warner from the Naval Hospital, League Island, Pa., to the Naval Hospital, Annapolis, Md.; of Commander William J. Zalesky from the receiving barracks, Hampton Roads, Va., to the U. S. S. *Mercy;* of Commander Joseph P. Traynor from the Naval Hospital, New York, to the Naval Hospital, Boston; of Commander George L. Wickes from the Naval Training Station, Newport, to the U. S. S. *Utah;* of Commander Benjamin H. Dorsey from the U. S. S. *Utah* to the Naval Torpedo Station, Newport, R. I. Lieut. Albert J. Desautels, Naval Hospital, New York, has been ordered to the James Buchanan Brady Urological Institute, Baltimore, to attend a course of instruction; Lieut. Commander Clarence W. Ross from the Naval Hospital, Great Lakes, Ill., to the U. S. S. *Savannah.*

# Foreign Letters

## PARIS

*(From Our Regular Correspondent)*

Aug. 13, 1925.

### Aviation in the Army Medical Corps

Dr. Chassaing, member of the chamber of deputies, who has recently returned from Morocco, has rendered a report to the minister of war on aviation in the army medical corps; during the Great War he established the first bases in France and in Morocco.

In the present campaign against the Riffians, the transportation of the wounded by aeroplane has been carried out on a large scale, and for this purpose the same machines have been employed that were displayed at the exhibit of sanitary equipment held in connection with the recent congress of military medicine and pharmacy.

For the period from April 30 to June 5, the number of wounded evacuated from the northern front to the hospitals of Fez, Meknes and Taza was 346, which constituted almost all the severely wounded, or 5 per cent. of the total number wounded, which is the ordinary proportion. The evacuation was made usually in a nonstop flight, a light Henriot plane being employed to supplement the limousine plane in regions in which the latter would have difficulty in landing. The days on which the greatest number of wounded were evacuated were: May 21, twenty-two wounded evacuated to Fez; May 26, thirty-seven to Meknes; May 27, twenty-two to Meknes, and June 5, twenty-two to Fez. As a result of this rapid means of transportation, some of the wounded were hospitalized and operated on the same day they were injured. The reduction in the time required for transportation is one of the main reasons for the low percentage of operative mortality (3 per cent.). Scarcely too much can be said in praise of the courage of the pilots of the planes of the army medical corps, who constitute an élite body of men, at the head of whom is Colonel Armengaud, who is ably seconded by Chief Physician Epaulard.

### The Paris Institute for Cancer Research

Only recently has the world begun to take account of the extreme gravity of cancer. In France, only three years ago, at the instance of Professor Bergonié, the anticancer crusade finally began to take on a practical and effective form. Through the cooperation of Senator Paul Strauss, then minister of public health, regional centers against cancer were organized in a number of French cities. M. Jean Varenne has recently submitted to the Conseil général of the Seine a proposal looking toward the creation of an institute for the study and treatment of cancer. This foundation would be under the general control of the chair of pathologic anatomy of the Faculté de médecine of Paris. In order to be in a position to carry on the types of social work expected of it, such an institute must be a sanatorium, a research laboratory and a center of instruction, all in one.

Varenne holds that, in view of the importance of the development of the anticancer crusade in France, the time has arrived for the general council of the Seine to make a renewed effort, and to endow the department of this institute for the study and treatment of cancer in a manner similar to the institutes that exist in certain foreign countries. He transmitted recently to the general council of the Seine the following proposal which, at his request, was referred to the administration:

The administration is urged to consider (1) the creation of an institute for the study and treatment of cancer, such institute to be under the direction of the chair of pathologic anatomy of the Faculté de médecine, and (2) the gratuitous concession by the department of the site needed for the construction of this institute and its participation in the costs of construction, in the form of a subvention granted the committee on organization specially and legally constituted to collect the funds for the institute.

### The Eighteenth French Congress of Medicine

The eighteenth French Congress of Medicine has just been held at Nancy. It was one of the most successful meetings ever held. It opened July 16, under the chairmanship of Dr. Simon, professor at the Faculté de médecine of Nancy. Four hundred and fifty-five members responded to the invitation of French-speaking physicians and sixteen different nations were represented by the highest medical authorities.

After the addresses of M. Charles Adam, rector of the University of Nancy, and of M. Spillmann, dean of the medical faculty, M. Henrijean of Liége referred, in well chosen words, to the close bonds uniting the scientists of Belgium and France, and Dr. Lesage, speaking in behalf of the government of Canada, whose official delegate he was, brought out in a forceful address the common origin, the common culture and the common feelings which united Canada and France.

After other addresses, in which Dr. Praum, representative of the Grand Duchy of Luxemburg, referred to the many bonds uniting Lorraine with his native country, and Professor Simon gave a critical account of humoral theories from the beginnings of medicine down to our own day, the visitors at the congress were conducted to the Hôpital Civil, where they inspected the numerous services, most of which are provided with the most modern equipment, while others are in process of transformation to meet the enlarged needs of the times.

The afternoon of the same day, the congress reassembled in the amphitheater of the Faculté de médecine, where papers on angina pectoris were presented by M. Gallavardin, hospital physician in Lyons, and Richon, professor at the Faculté de médecine of Nancy.

The day following, the assembly listened to papers on acidosis by Messieurs Labbé and Nepveux of Paris, M. Dautrebande of Brussels and Dr. Petren of Sweden. An animated discussion followed the reading of the papers.

The visitors were then invited to inspect the annexes of the Hôpital Civil; among others, Hôpital Villemin with the services directed by Parisot and Perrin, reserved for tuberculous patients, in the midst of vast sunlit gardens. The model dispensary annexed to these services is directed by Dr. Parisot, who gave an account of the work accomplished in the antituberculosis campaign by the bureau of social hygiene of the department of Meurthe and Moselle. The Hôpital Maringer was the next visited. Here the center of interest was the clinic of dermatology and syphilography, together with the Fournier dispensary, which has been organized and equipped according to the plans of Dr. Spillmann and constitutes a model dispensary, with its consultation rooms and its large and modern laboratories.

In the Anatomic Institute, an interesting exhibit of scientific instruments and of pharmaceutic products was displayed.

The afternoon of the second day, an excursion was organized and a visit was paid to the Grand Couronné of Nancy and the Léomont farm, where the story of the bloody battles of 1914 was rehearsed. That evening all attended a gala performance at the Grand Théatre.

The third day, the papers of Drs. Bezançon and Jong, and of Drs. Parisot and Caussade on pulmonary gangrene were presented and discussed. In the evening, the different sections met in the various amphitheaters. The section of infectious diseases convened in the grand amphitheater under the chairmanship of Prof. Pierre Teissier. The section of tuberculous diseases gathered in the Hôpital Villemin, being

presided over by Professor Bezançon. The section of dermatology was held in the Hôpital Fournier, under the chairmanship of Thibierge and Darier. The section of neurology, endocrinology and social medicine met in the small amphitheater, under the chairmanship of M. Crouzon.

Later in the evening, a banquet was held, at which the addresses of the foreign delegates were well received.

The following day, two excursions were organized, one to Donon and the other to the Vosges Mountains, including the mountain resorts Contrexèville and Vittel, after which the congress disbanded.

## LONDON

*(From Our Regular Correspondent)*

Aug. 22, 1925.

### Foreign Public Medical Statisticians

A luncheon has been given by the government in honor of the foreign public medical statisticians visiting this country under the auspices of the League of Nations. The guests were: Dr. S. Rosenfield, Austria; Dr. Camille Jaquart, Belgium; Dr. H. J. Hansen, Denmark; Dr. T. H. C. Stevenson, England; Dr. Martti Kovero, Finland; Dr. M. Huber, France; Dr. E. Roesle, Germany; Dr. Cunnar Jahn, Norway; Dr. J. C. Dunlop, Scotland; Dr. E. H. N. Arosenius, Sweden; Dr. Marcel Ney, Switzerland; Dr. W. H. Davis, United States; Dr. A. Aguirre-Sayago, Chile; Dr. Martin Kacprzak, Poland, and Mr. K. Stouman and Mr. J. Pagnod, League of Nations. Dr. J. Stouman, member of the Health Section, League of Nations, expressed appreciation of the welcome they had received in this country. In the studies they were making in public health they had toured widely in northern Europe, but they came to this country remembering that it was here, by the work of an expert committee, that the health side of the League of Nations was first set afoot, and he knew full well that that side of the work always found enthusiastic support from the government of this country.

### Irish Physicians and the British Medical Register

In previous letters, the serious problem that has arisen for Irish physicians in consequence of the abolition of the union and the establishment of the Irish Free State has been described. More than half the physicians who qualify in Ireland at once leave the country to practice in other parts of the empire, mainly in Great Britain. Under the union it was just as easy to practice in Great Britain as in Ireland, as there was a single medical register and the Irish physicians and medical schools were subject to the general medical council, which sits in London. The establishment of the Free State annulled the authority of the general medical council in Ireland, and therefore physicians subsequently qualifying in Ireland became ineligible for the British register. This caused alarm in Irish schools, whose teachers declared that they would be ruined. The result was that the Irish government was induced to introduce a bill into the dail authorizing the general medical council to continue its jurisdiction in Ireland for a year—an arrangement in which the council aquiesced, thus enabling things to continue as before (THE JOURNAL, Sept. 20, 1924, p. 933). The irony of the situation was pointed out. Here were politicians who had been passionately asserting that what was wrong with Ireland was English rule now acquiescing in the doctrine that in one sphere, at any rate, its removal meant ruin. However, it seems that this inconsistency will not last. The Free State government has announced its intention to establish a separate medical register. This has provoked grave alarm in Ireland throughout the medical profession and in the universities. The Irish medical profession was, as it is now, unanimous in its anxiety to retain the enormous advantages of the British medical register, and nobody supposed that the Free State government would raise the slightest difficulty. To everybody's surprise, however, it moved slowly and reluctantly. The bill that it introduced in the Free State parliament provided for the reestablishment of the British medical register for a period of only twelve months, and was passed only in the nick of time. Now comes Mr. Cosgrave's startling announcement. He states that the executive council had decided "not to seek the continuance of the United Kingdom arrangement, whereby the medical profession of Ireland, with certain representation, was controlled by the British general medical council." Mr. Cosgrave explained his government's position in the following words: "That an important profession within the state should have its center of gravity and disciplinary headquarters in the capital of another country is felt to be so incompatible with our constitutional status that we must be prepared to face whatever minor and temporary disadvantages may accrue from the cessation of that arrangement." Mr. Cosgrave, while admitting that disadvantages might accrue from the new arrangement, declared that misdirected zeal on the part of the advocates of the old arrangement would be to blame if parents and students should feel misgivings about the future status of the medical profession in the Free State. "The executive council," he added, "anticipates no serious reactions from the establishment of a self-contained and self-controlled medical authority in this country," and he concluded that the new settlement would be a matter for negotiation between the Free State and imperial governments.

The Free State government has done many controversial things, but this decision is by far the most serious challenge that it has yet offered to educated public opinion. Among all classes, the privileges of the British medical register are deeply valued in Ireland. These privileges have conferred on Irish physicians a status superior to that of colonial physicians, and have opened to the Irish medical profession the immense field of the British empire, and the British medical services, military and civil, in all parts of the world. At the present moment the naval, army and air force medical services are manned largely by graduates of the Irish medical schools. It is calculated that today the Free State can find employment for not more than twenty of the 150 physicians who graduate annually from its medical schools. The probable results of any diminution of the status of Free State physicians will be as follows: A large number of boys intended for the medical profession will be sent immediately to English and northern Irish schools. There will be an exodus of Free State medical students to London, Edinburgh and Belfast. The medical schools of Dublin and Cork will receive a staggering blow. Dublin University and the National University will suffer heavy losses of money and prestige, and, of course, a new barrier will be erected against the ultimate unity of the two Irish states.

This decision has produced a burning political question of the first importance in Ireland, while England is a scarcely interested spectator. The Irish newspapers are full of protests by leading physicians; regardless of their political opinions the whole medical profession is up in arms. The government's action seems to have been inspired by the desire to deprive the republicans of a taunt and to propitiate the extremists of its own party. The blow which the Irish schools are likely to receive by loss of Irish students will be increased by the fact that during the last twenty years the number of foreign students in Dublin, notably of South Africans from Stellenbosch and other African universities, has been steadily increasing. If such students find themselves deprived of the advantage of the British medical register, they will transfer themselves to Belfast or some other university. However, the fact must be remembered that if the Free State establishes a separate register it will be open for

Ireland to apply to England to have its qualifications recognized on a reciprocity basis, like those of other dominions. At present a physician holding a colonial medical diploma, on showing that he is of good character, can on payment of a fee be registered as a colonial practitioner in the United Kingdom. But this will involve some disadvantages compared to the present position of full equality with English qualifications.

### Motor Road Accidents

The alarming increase of motor road accidents in this country has been commented on in previous letters. The latest figures unfortunately show that the increase continues. The following table for Great Britain, compiled by the National "Safety First" Association, shows the increase in the number of street accidents in which mechanically propelled vehicles (excluding street cars) were involved, compared with the increase in the number of such mechanically propelled vehicles:

| | 1918 | 1921 | 1922 | 1923 | 1924 |
|---|---|---|---|---|---|
| Number killed ..... | 1,144 | 2,091 | 2,222 | 2,435 | 3,019 |
| Number injured ..... | 13,098 | 36,609 | 42,058 | 53,084 | 64,318 |
| Total accidents ..... | 14,242 | 38,700 | 44,280 | 55,519 | 67,337 |
| Number of vehicles..... | ..... | 860,082 | 962,115 | 1,127,590 | 1,312,357 |
| Accidents per thousand vehicles ..... | ..... | 44.9 | 46.0 | 48.4 | 51.3 |
| Fatalities per thousand vehicles ..... | ..... | 2.4 | 2.3 | 2.2 | 2.3 |
| Vehicles per accident... | ..... | 22 | 22 | 20 | 20 |

No reliable figures are available for vehicles prior to 1921 to compare with the accident returns. Within the limitations of statistical deductions, the following points arise: (*a*) In six years the fatalities in which motor vehicles were involved have nearly trebled, nonfatal accidents being nearly five times as many. (*b*) Comparing 1924 with 1921, the number of mechanically propelled vehicles has increased by 52.5 per cent., of fatalities by 44.4 per cent., of accidents by 75.5 per cent. (*c*) The fatality ratio per thousand vehicles is nearly stationary. It is still double the corresponding figure for the United States, which in 1924 was 1.0, having fallen steadily from 2.4 in 1915. (*d*) The accident ratio per thousand vehicles is tending to increase somewhat. This may possibly be due partly to recording of a higher proportion of street accidents. The number of fatal accidents is always known to the police, but numbers of nonfatal accidents never come to their knowledge. (*e*) The truest indication of risk would be the combination of accidents with the mileage covered by vehicles, rather than with their number. It is quite possible that the present-day average mileage of a motor vehicle is much more than in the past. These figures are disquieting. The average risk of accident with any given motor vehicle is increasing. This not only shows the necessity of adopting as quickly as possible every approved device and method, such as the white line, traffic control at crossroads, the off-side rule, calculated to make our roads safer, but extending the campaign for inculcating road sense to driver, cyclist, pedestrian—in fact, to all road users. That view the National "Safety First" Association has been steadily keeping before the public for many years. In London, where we are better organized than in the provinces, the accidents are proportionately lower. This seems to be due to educative work by the National "Safety First" Association in the schools and among the drivers of vehicles. The London bus drivers are the safest in the country. Each man undergoes a course of safety training before he is allowed on the road, and the "freedom from accidents competition" of the association is a corollary of their training course. Similar training has now been organized in Glasgow, Liverpool, Manchester, Leeds and Huddersfield. Councils for the purpose are in process of formation in Edinburgh, Sheffield, Leicester, Halifax and Newcastle. More and more safety is being taught in schools, and the association's safety codes and posters are sought in larger numbers. But we are still a long way behind America in public safety organization, and the fatality ratio in that country is lower than ours in spite of their larger number of cars.

### A "World List" of Scientific Periodicals

Some time ago I reported the initiation of a scheme to prepare a list of scientific periodicals publishing scientific research, with an indication of libraries in this country where they are filed. The Conjoint Board of Scientific Societies prepared the scheme, with the assistance of a committee representing different branches of science and with the expert guidance of the keeper of printed books at the British Museum. It was found that the idea was practicable: that a sufficient number of institutions and persons in Great Britain and in foreign countries would welcome the preparation of a list. The trustees of the British Museum recognized its importance to science and to bibliography as so great as to justify the compilation being made part of the official duty of the museum staff. But commercial success could not be expected for so costly a piece of printing. The trustees of the Carnegie United Kingdom Trust reduced this difficulty by promising on certain conditions a grant of $5,000. The Conjoint Board came to an end before the completion of the great scheme which it had developed, but before its decease handed over the enterprise to three trustees, who have carried it to completion. The result is the first volume of "A World List of Scientific Periodicals" issued by the Oxford University Press. It contains, arranged alphabetically, the full titles of no fewer than 24,028 periodicals in existence from 1900 to 1921, publishing the results of scientific research. It is to be followed before long by a second volume, which will give a standard abbreviation for each title. But a much wider question is raised by the vast number of periodicals that have been found to exist. The connotation of the term "scientific" has been taken from the International Catalogue of Scientific Literature, and the international experts who fixed the definition did not err on the side of leniency. It may be assumed that every one of the 24,000 periodicals publishes regularly or occasionally contributions to scientific knowledge which ought not to be overlooked. The total number is much greater than was anticipated. Even if there were an exact classification of the sciences, and if each periodical confined itself to a definite branch, the number of publications to be examined by any one who wished to follow what was being done in his own branch of research would be impossibly great. But the branches of science themselves overlap. Chemistry and physics intergrade; the biologist has to take and give and be in touch with almost every department of science. There is no safe way of insuring that all contributions to scientific knowledge may be at the disposal of the researcher other than the provision of accurate, ample and classified indexes to periodical literature. No doubt, in certain cases, abstracts of the published results of research are useful; but an index to the abstracts is as necessary as to the periodicals, and to abstract all periodical literature is a task gigantic beyond possibility. At present, when even the most comprehensive library contains only a proportion of existing periodicals, the abstracter or indexer has to wander from library to library. The second volume of the "World List" will help him by showing where particular periodicals may be found; but even with this knowledge the attempt to index the new papers on a single subject, for example, ornithology, requires visits to some six or seven libraries in London. Outside London the difficulties are even greater. The only possibility of the prompt, adequate and complete indexing of scientific research would be provided by a central library containing all the periodicals.

## BERLIN

*(From Our Regular Correspondent)*

Aug. 15, 1925.

### Professor Bier's Attitude Toward Homeopathy

An article in the *Münchener medizinische Wochenschrift* by Professor Bier on the subject "What attitude shall we take toward homeopathy?" has awakened great interest. On the basis of his study of homeopathic works, particularly the original works of Hahnemann, and supported by the evidence of observations that he has made in treating general furunculosis with minute doses of sulphur and the results secured in the treatment with ether of bronchitis developing from anesthesia, Bier has reached the conclusion that homeopathy has good features which ought to be utilized by medical science. As was to be expected, the homeopathic physicians and the homeopathic journals have taken full advantage of this communication of the well known Berlin surgeon, whereas many practitioners have been puzzled by the Bier article. Any one who has followed the articles of Bier published in recent years will not be much surprised by his last publication, for in his earlier articles as well he has shown himself in his therapeutic proposals to be a rather too optimistic and not sufficiently critical observer. In his endeavor to be as just as possible toward therapeutists with opposing opinions, he has evidently departed somewhat from the paths of critical science, a finding that, in the case of an authority of his rank, presents serious aspects. Several articles have already appeared in opposition to his contribution on homeopathy. The Verein für Innere Medizin in Berlin took up the subject at a recent special meeting, at which Prof. Eduard Müller of Marburg and Prof. W. Heubner of Göttingen gave the main addresses. During the discussions, Bier made several attempts to defend himself against the attacks that have been made against him, but, as was to be foreseen, he did not meet with much success. Professor Goldscheider emphasized that, even if Bier's observations on furunculosis and ether bronchitis should be confirmed, it would not signify anything for the school of homeopathy. The fundamental principles of this so-called doctrine are, he alleged, just as untenable as they ever were, and, in general, medical science must refuse to accept or recognize systems of any kind, whether homeopathic or otherwise. That Bier's attitude will affect other milieus besides the homeopathists is certain. The quacks will make the most of the pronouncement, and will proclaim that the old school, as in its judgment of homeopathy, will be compelled to change its attitude toward "eye diagnosis" and other swindles, which is much to be regretted.

### Infant Mortality in Berlin in 1924

According to a recent report in the *Deutsche medizinische Wochenschrift*, as rendered by Dr. Wiese, assistant in the orphans' and children's asylum of Berlin, the mortality of infants of legitimate birth in Berlin for the year 1924 was considerably lower than the prewar rate. As a result of the decrease of deaths from nutritional disturbances, the summer peak of infant mortality has not been in evidence since the war. However, the mortality of infants from influenza and pneumonia, during the years immediately following the war, was considerably increased, so that the mortality of infants born in wedlock was somewhat higher than before the war. With the subsidence of the influenza wave of 1923 and 1924, the number of deaths from influenza and pneumonia fell back to the prewar rate, with the result that for the year 1924 a marked decrease in the infant mortality was noted.

Whereas, before and since the war, the mortality rate from infectious diseases was 7 per thousand living legitimate births, the corresponding rate for 1924 was only 2.7. For Old Berlin the mortality per thousand living legitimate births from the two specific causes, lack of vitality and syphilis, was as follows:

| | 1912 | 1913 | 1922 | 1923 | 1924 |
|---|---|---|---|---|---|
| Lack of vitality..... | 34 | 32 | 34 | 33 | 27.9 |
| Syphilis ..... | 2.1 | 2.1 | 4 | 3.7 | 3.6 |

In 1924, the mortality of infants born out of wedlock dropped almost to the prewar standard. The chances of life for illegitimate infants in Old Berlin in 1922 were 2.6 times worse, and in 1923 and 1924 they were still 2.4 times worse than for legitimate children. In 1913 the corresponding ratio was 1.7 to 1. The greatly increased mortality among illegitimate children was due, in Group 1, to influenza and pneumonia, and infectious diseases, and, in Group 2, to lack of vitality (premature birth, conditions of birth, congenital weakness, and errors in diagnosis) and syphilis. As regards Group 1, the economic distress due to inflation had disrupted family care, for, as a result of the constant depreciation of the mark, the boarding out system could not be adequately maintained. This led to a widespread hospitalization of illegitimate children. The existing good institutions for infants became overcrowded. New homes had to be founded, and these were not always equal to the very difficult task of caring for large groups of infants. The wide prevalence of influenza in those years added greatly to the difficulties. There resulted, consequently, a marked increase of deaths from influenza and pneumonia, and, owing to the crowded conditions in the institutions, also from infectious diseases. It is not at all out of place to speak of an "inflation mortality." With the reconstruction of family care after the period of inflation had been surmounted; with the subsidence of the influenza wave, and after the closing of some of the poorly organized homes, the situation improved at once. The mortality of illegitimate infants from influenza, pneumonia and infectious diseases decreased in two years by 62.1 per thousand living births, and in 1924 reached a figure that was only slightly higher than the prewar rate. The general mortality of illegitimate infants reached the prewar standard.

As a result of the long war, syphilis had become widespread. On account of the great difficulties of the situation, progress in combating this disease has been slow. Nevertheless, by 1924 the favorable results of the nationwide crusade had become apparent. Of 1,000 illegitimate living births, there died in Old Berlin:

| | 1912 | 1913 | 1922 | 1923 | 1924 |
|---|---|---|---|---|---|
| From nutritional disturbances..... | 51 | 54 | 42 | 35 | 29.3 |

Of 1,000 living births, there died in Old Berlin from tuberculosis:

| | 1912 | 1913 | 1922 | 1923 | 1924 |
|---|---|---|---|---|---|
| Infants of legitimate birth..... | 2.3 | 1.8 | 3.5 | 3.7 | 2.5 |
| Infants of illegitimate birth..... | 2.0 | 2.2 | 4.9 | 3.5 | 1.5 |

Tuberculosis as a cause of death increased after the war, but the increase is now being rapidly overcome. However, among infants tuberculosis plays a very unimportant rôle as a cause of death. It is worthy of note that tuberculosis is the only disease category in which the illegitimate do not present a higher mortality rate than the legitimate; sometimes the mortality rate of the former from this disease has been even lower than that of the latter, as was distinctly the case in 1924. The explanation for this lies primarily in the fact that a tuberculous illegitimate mother seldom carries her infant to term, and secondly because mother and child are commonly soon separated.

According to the data cited above, therefore, among legitimate children born in Old Berlin in 1924, lack of vitality, syphilis, influenza, pneumonia and tuberculosis are more prominent as causes of death than before the war, whereas nutritional disturbances and infectious diseases are less

prominent. In the case of illegitimate children, the conditions with respect to tuberculosis and infectious diseases were just the opposite, the former disease having been less prevalent and the latter diseases more prevalent since the war than among legitimate children.

It is interesting to note the relative mortality that occurs during the first month of life. Of 100 infant deaths in Old Berlin, the number occurring during the first month of life for the years 1912, 1913, 1923 and 1924 was as follows:

| | 1912 | 1913 | 1923 | 1924 |
|---|---|---|---|---|
| Legitimate children | 36.8 | 37.4 | 39.2 | 45.9 |
| Illegitimate children | 43.2 | 40.5 | 41.3 | 50.0 |

The record for 1924 shows a considerable increase of the relative mortality occurring in the first month among children of legitimate birth, whereas the mortality in all the later months has decreased. On the other hand, among children of illegitimate birth not only the mortality occurring in the first month of life has greatly increased but also the mortality of the second half year has increased, both in relation to the number of living births and also proportionately. It will be readily apparent that these observations are of great practical value for the organization of welfare measures and the combating of infant mortality.

For the further reduction of mortality among illegitimate children, Wiese proposes the adoption of the following measures: Further and more energetic organization of family care; transference of infants needing institutional care to only the best homes; closing of the inferior homes; combating the increased winter mortality by prophylactic measures: adequate provision of vitamin C; prophylactic mercury vapor lamp treatment in winter; combating of syphilis in prenatal care; the general introduction of retroplacental blood tests (the Wassermann test and the Meinicke turbidity test), together with compulsory treatment; the early discovery of illegitimate children and their immediate admission to a welfare institution; combating of mortality during the first weeks of life through the adoption of the proposals of Rott: (1) prevention of premature birth through the prenatal care centers, and (2) the prevention of disease among the new-born through better training of midwives in infant care, and, finally, uniform and carefully collected statistics of caretaking institutions for infants, including maternity institutions.

### A German Institute of Gynecology

Under the direction of the gynecologist Professor Liepmann, a German institute of gynecology, combined with a women's clinic, was opened the end of June. The object of the institute is to further the knowledge of the sociological aspects of the diseases of women and to elaborate measures for the prevention of such diseases. The scientific, and also the pathologic and biologic departments, are to be directed by Professor Kuczinski, departmental director of the Pathologic Institute of the Charité Hospital.

This innovation in itself is deserving of approval. Some misgivings are, however, aroused by the fact that the new creation has been established by the main league of the German health insurance societies and that its activities will consequently be in the service of the league. The institute appears, therefore, to be the beginning of an attempt on the part of the health insurance societies, now that they have their ambulatoriums in which patients are treated by special *Krankenkassen* physicians, to establish their own clinics, which will not only have a damaging effect on other specialists but will possibly reduce to an unfortunate extent the instruction material furnished by the university clinics. For the reasons cited, the medical profession of Germany is assuming an opposing attitude toward the new institute of gynecology, and several expressions of this feeling have appeared in the various professional journals. To show how the funds furnished by social legislation to the health insurance societies for public purposes are being employed in the institute, it may be stated that in the clinic beds for first-class patients have been provided and that at each bed a wireless telephone has been set up.

## ITALY

*(From Our Regular Correspondent)*

Aug. 3, 1925.

### The Italian Interuniversity Institute

A new institute has been established in Rome, which bears the name Istituto Interuniversitario Italiano. The object of the organization is to promote by direct and active methods all forms of higher learning, to bring about a better knowledge of Italian culture in foreign countries, and to further intellectual relations between Italy and other nations. It will organize courses of study for foreigners and nationals, and will coordinate and develop courses already established. The executive committee is composed of delegates from all the universities of Italy (both royal and private institutions), from institutes of higher learning, and from many other scientific organizations. Ex-Minister Gentile, who is a senator and the author of recent reforms in public instruction, has been appointed chairman of the administrative council of the institute. Among the members of the council is S. E. Fedele, the present minister of public instruction.

### An Ovation to Professor Mangiagalli

In the Sforza Castle in Milan, a celebration was recently held in honor of Mangiagalli, who for forty-three years was professor of clinical obstetrics and gynecology and who at present is the rector of the new University of Milan. Mangiagalli was one of the founders of the Milan Atheneum, the first idea of which he conceived in 1882 but which did not become a reality until a year ago, at the time the ancient Istituto di studi superiori of Milan came finally to assume the rank of a university. On the occasion of the celebration, Senator Mangiagalli made gifts to the university totaling one million liras, stipulating that the earnings should be used in the administration of the university.

### The Eleventh Centenary of the University of Pavia

The University of Pavia celebrated recently the eleventh centenary of its foundation, it having been organized as a school of higher learning by Lothair I, emperor of the west and king of Italy, in 825. The ceremonies were attended by the king; many civil, military and ecclesiastical authorities; the minister of public instruction, and representatives of Italian and foreign universities. Several speakers recounted the vicissitudes and told of the triumphs of the famous Ticinian atheneum (the ancient name of Pavia was Ticinum), pointing out the great influence on the world's culture exerted by this beacon, the light from which continued to pierce the darkness of the Middle Ages. In a courtyard of the university there was dedicated a monument in memory of Lanfranc and medieval masters of the Studio di Pavia. An honorary doctor's title was conferred on the king. Coincident with this celebration, the Società italiana per il progresso delle scienze held in Pavia its fourteenth convention, under the chairmanship of Prof. O. Solmi, rector of the university. The society is composed of fourteen sections, each of which held separate sessions. The new section of military science functioned for the first time.

### A Physicians' Club House

The provincial medical association, with its seat at Milan, has taken the initiative and plans to erect in that city the

first *casa del sanitario*, or club house for physicians, to provide a meeting place for physicians, Italian and foreign, who visit the capital of Lombardy. The club house will be furnished with all modern comforts, and will have a good library, a reading room and a large assembly room for lectures and conventions. A permanent secretary will be employed, who will supply visitors with all needed information. It is thought that similar institutions will likely be erected in other large cities of Italy. In the procuring of funds the *casa del sanitario* will be associated with "Il fanciullo d'Italia," a child welfare organization, which plans to construct and turn over to the state large numbers of child welfare institutions, so that all communities of Italy may be provided for.

### Guglielmo Romiti, Professor of Anatomy

The University of Pisa and the Citizens' Guild joined forces recently to give an ovation to Prof. Guglielmo Romiti, who, having passed the age limit, has resigned his professorship in the university.

Romiti was born at Pisa in 1850. After graduating in medicine and surgery, he attended successively the universities of Vienna, Strasbourg and Berlin, where he specialized in normal human anatomy. On returning to Italy, he became anatomic inspector at Florence, and later an assistant at Parma. In 1877 he secured the chair of anatomy in the University of Parma, and in 1886 he accepted a similar call to the University of Pisa. He became the founder of the Italian school of anatomy, and enjoyed the honor of receiving as pupils many of the leading university professors of Italy: Chiarugi of Florence, Lapi of Genoa, Bertelli of Padua, Pardi of Pisa, Valenti of Bologna, and Salvi of Naples. Being an indefatigable investigator and a shrewd reasoner, Romiti has to his credit more than 130 scientific works published in Italy and elsewhere, among which are a treatise on human anatomy, in four volumes, and a treatise on topographic anatomy, which have been and are still the basis of modern anatomy. He counts among his friends large numbers of foreign scientists. He has received some thirty-five honorary titles from all parts of the world—from Scotland to Spain, and from Venezuela to Japan and China. Professor Romiti counts the king of Italy among his personal friends. The ceremonies in his honor were attended by the whole medical faculty, numerous representatives of the other faculties of the university, the minister and the undersecretary of state for public instruction, and many Italian and foreign scientists. Not the least of Professor Romiti's services is his presentation to the University of Pisa of his anatomic library, the most valuable one of the kind in Italy.

### Lata, or Jumping Disease, in Tripolitania

According to recent reports, lata occurs not only in central Africa, India, Siam and Malaysia but also in Tripolitania. Persons affected with this tropical disease continue to lead their ordinary life and present no signs of mental disequilibrium of nervous origin other than such as are characteristic of this form of disease. Subjects suffering from lata perform various involuntary actions and utter ejaculations in imitation of the actions and words of other persons. They become excited and react to slight stimuli which in a normal person would cause no reaction of importance. As for the etiology, there are some who regard this clinical form as the peculiar expression of a monosymptomatic hysteria and who ascribe it to a suspension or complete abolition of higher inhibitory powers. Patients seldom recover from the disease. While it affects mainly the natives, it sometimes develops among white persons living in the colonies. The disease has also medicolegal importance, for persons affected with lata have been known to commit crimes at the suggestion of another person.

## Marriages

JAMES DUFFY HANCOCK, Jeffersonville, Ind., to Miss Marie Elizabeth Seelbach of Louisville, August 6.

ETHAN BENJAMIN PFEFFERKORN, Milwaukee, to Miss Harriett A. Dohr of Oshkosh, Wis., July 11.

JOHN DOUGLAS SIMMONS, Gunnison, Miss., to Miss Eunnye Elizabeth Bowe of Mineral Wells, May 16.

FINDLEY DAYTON JOHN, Chicago, to Miss Josie Dulaney of Okolona, Miss., August 20.

FRANCIS A. FAGONE, Portland, Me., to Miss Jeanette Del Gandio of Boston, July 26.

WILFRED CLYDE ADKERSON to Miss Anna Bell Fox, both of Lynchburg, Va., May 9.

MAURICE ALBACH to Miss Miriam Pearl Silverman, both of Chicago, August 16.

M. BOYD KAY to Miss Dorothy Virginia Reese, both of Detroit, July 25.

DEBORAH DOAN to Mr. Earl L. Phillips, both of Trenton, Mo., August 9.

## Deaths

**John Edwin Rhodes** ⊕ professor emeritus of laryngology and otology at Rush Medical College, died at his home in Chicago, September 2, aged 74, of angina pectoris and pernicious anemia. Dr. Rhodes graduated from the old University of Chicago in 1876, and for a time engaged in business in California. He then took up the study of medicine, graduating at Rush Medical College in 1886, and almost at once became connected with the faculty. He was for many years professor of otology and laryngology and college historian, collaborating with the late Dr. Norman Bridge in writing a history of Rush Medical College. He was formerly on the staffs of the Presbyterian, St. Mary's and Nazareth hospitals, and the Home for Destitute Crippled, and was a member of many special otolaryngologic societies.

**Ralph H. Pomeroy** ⊕ Brooklyn; Long Island College Hospital, Brooklyn, 1889; past president of the Kings County Medical Society; member of the American Gynecological Society, the Brooklyn Gynecological Society, and the New York Obstetrical Society; formerly associate professor of obstetrics and gynecology at his alma mater; on the staffs of the Kings County, St. John's and the Methodist Episcopal hospitals; aged 58; died, August 22, of pleurisy.

**Charles Watson Bartlett,** Marshfield, Mass.; Medical Department of Columbia College, 1889; member of the Massachusetts Medical Society; formerly member of the school board and chairman of the board of health; aged 60; died, August 9, following a long illness.

**Nelson Gore Trueman,** Salem, Mass.; Medical School of Harvard University, Boston, 1903; member of the New England Society of Psychiatry; formerly on the staff of the Danvers (Mass.) State Hospital; aged 46; was drowned, August 10.

**Arthur Noel Savignac,** Amesburg, Mass.; University of Montreal Medical Faculty, Montreal, Que., Canada, 1890; member of the Massachusetts Medical Society; aged 64; died, August 13, at the Massachusetts General Hospital, Boston.

**John W. Fyfe,** Saugatuck, Conn.; Eclectic Medical College of the City of New York, 1887; formerly president of the Connecticut Eclectic State Examining Board; aged 86; died, August 5, at the Norwalk (Conn.) Hospital, of arthritis.

**Samuel Alman,** Gilbertown, Ala.; Louisville (Ky.) Medical College, 1898; member of the Medical Association of the State of Alabama; aged 52; was found dead, August 20, of a bullet wound, presumably self-inflicted.

**Millard Fillmore Fox,** Guilford College, N. C.; College of Physicians and Surgeons, Baltimore, 1881; member of the Medical Society of the State of North Carolina; aged 72; died, August 15, at Norfolk, Va.

**Herbert Pennell Moseley,** Farmville, N. C.; University College of Medicine, Richmond, Va., 1912; member of the Medical

⊕ Indicates "Fellow" of the American Medical Association.

Society of the State of North Carolina; aged 37; was shot and killed, August 20.

**Laurie Thomas W. Penney,** New Germany, Nova Scotia, Canada; McGill University Faculty of Medicine, Montreal, Que., 1907; aged 44; died, June 19, at the Dawson Memorial Hospital, Bridgewater.

**Abram Kissinger Wanner** ✠ Reading, Pa.; Jefferson Medical College of Philadelphia, 1898; formerly on the staff of the Reading Hospital, where he died, in August, of tumor of the brain, aged 55.

**David Barnes Van Wyck,** Arlington, N. Y.; Bellevue Hospital Medical College, New York, 1889; member of the Medical Society of the State of New York; aged 72; died, August 16, at Poughkeepsie.

**David C. Brockman** ✠ Ottumwa, Iowa; State University of Iowa College of Medicine, Iowa City, 1878; member of the Western Surgical Association; aged 71; died, August 21, of angina pectoris.

**Francis Marion Fowler** ✠ Elizabethtown, Ill.; Vanderbilt University Medical Department, Nashville, Tenn., 1896; aged 66; died, July 8, at a sanatorium in Memphis, Tenn., of angina pectoris.

**J. Cash Waring,** McClellanville, S. C.; Medical College of the State of South Carolina, 1894; member of the South Carolina Medical Association; died, in August, of cerebral hemorrhage.

**Louis G. Rupp,** Concord, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1905; member of the State Medical Society of Wisconsin; aged 47; died, August 12, of erysipelas.

**Henry Lane Snodgrass** ✠ Buffalo, Pa.; University of Michigan Medical School, Ann Arbor, 1876; aged 75; died, August 15, at the Washington (Pa.) Hospital, following an operation.

**Samuel Russell Stofer,** Los Angeles; University of Wooster Medical Department, Cleveland, 1876; formerly a practitioner in Missouri; aged 78; died, August 17, following a long illness.

**David Crispin Holton** ✠ Miami, Fla.; Bellevue Hospital Medical College, New York, 1886; member of the Medical Society of the State of New York; aged 77; died, August 11.

**Harvey Joseph McCloughan,** Newton, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1898; died, August 13, of burns received when his bed caught fire.

**Andrew Lafayette Gaston** ✠ Ensley, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1910; aged 41; died, August 11, of acute dilatation of the heart.

**Charles B. Simmons** ✠ Fort Worth, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1893; aged 55; died, August 5, of gastric ulcer.

**Claudius Henry Mastin, Jr.,** Mobile, Ala.; University of Pennsylvania School of Medicine, Philadelphia, 1884; aged 63; died, August 9, at Citronelle.

**Levi Johnson Lennox,** Detroit; Trinity Medical College, Toronto, Ont., Canada, 1881; aged 70; was killed, August 9, in an automobile accident.

**William Edward Hastings,** Zionsville, Ind.; Miami Medical College, Cincinnati, 1897; aged 54; died, August 25, of pernicious anemia.

**William Thomas Harrison,** Keene, Ont., Canada; Victoria University Medical Department, Toronto, 1869; aged 79; died suddenly, July 25.

**James Campbell Beatty,** Regina, Sask., Canada; University of Toronto Faculty of Medicine, Toronto, Ont., 1905; aged 42; died, July 25.

**Wyatt Russell McClain,** Pelham, Ga. (years of practice); Confederate veteran; aged 89; died, August 2, following a long illness.

**David A. Hart,** Montreal, Que., Canada; University of Bishop College Faculty of Medicine, Montreal, 1874; died, in June.

**Noah Ray Myers** ✠ Wanamie, Pa.; University of Pittsburgh School of Medicine, 1892; aged 66; died, August 13, of asthma.

**John T. Chowning,** Livingston, Tenn.; University of Louisville (Ky.) School of Medicine, 1877; aged 70; died, August 10.

**George Wallace Brown,** Port Arthur, Ont., Canada; Trinity Medical College, Toronto, 1895; aged 58; died, May 29.

**Frank Camden Willard,** Baltimore; Baltimore Medical College, 1904; aged 45; died, August 9, of pneumonia.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

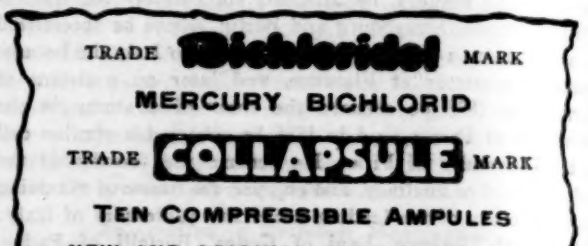
## BICHLORIDOL AND SALICIDOL NOT ACCEPTABLE FOR N. N. R.

### Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement.

W. A. PUCKNER, Secretary.

"Bichloridol" and "Salicidol" are the proprietary, uninforming names applied to suspensions, respectively, of mercuric chlorid and mercuric salicylate intended for intramuscular administration. These preparations are manufactured by the Collapsule Company, Inc., New York, and marketed by the H. A. Metz Laboratories, Inc., New York.



It is claimed that in these preparations the drugs are suspended in a "palmitin base." In answer to a request for a more definite statement as to the identity of the palmitin base, the firm replied:

"The palmitin used as a vehicle for the mercury bichloride and mercury salicylate is a mixture of glycerides of fatty acids, purified by mechanical means and with a consistency adjusted to approach the various requirements conditioned upon the varying climatic changes in the entire country."

The H. A. Metz Laboratories, Inc., were informed that a more definite statement in regard to the identity of the vehicle should be furnished and that the names "Bichloridol" and "Salicidol" for these pharmaceutical preparations could not be recognized, but that names such as Collapsule Mercuric Chlorid and Collapsule Mercuric Salicylate would be acceptable. The H. A. Metz Laboratories, Inc., offered no further information in regard to the composition of the vehicle. The firm stated that it was proposed to simply list Salicidol "to fill a still existing demand." The firm stated that the Collapsule Company, Inc., had consented to give prominence on the labels and in the literature to the name suggested by the Council for Bichloridol, but proposed to continue the proprietary names "Bichloridol" and "Salicidol."

It is the experience of the Council that the adoption of descriptive synonyms does not remove the objection to the

use of uninforming names applied to mixtures of established drugs. Therefore, the Council declared "Bichloridol" and "Salicidol" inadmissible to New and Nonofficial Remedies because they are marketed with indefinite statements of composition and under nondescriptive proprietary names.

## Correspondence

### ROSEOLA INFANTUM, THE ROSE RASH OF INFANTS

*To the Editor:*—In three successive papers read before different medical societies during the period 1909 to 1915 I described the incidence, symptomatology, course and termination of the peculiar exanthem to which I gave the name "roseola infantum." In the last few years many descriptions of the disease have appeared. I would express here my appreciation for the generous credit that has been accorded me in the work of separating this symptom-complex from the multitude of eruptions in infancy. Even Heiman, in reviewing the subject (*Arch. Pediat.*, July, 1925, p. 454) admits that nothing has been added to my original descriptions except that Levy and later Veeder and Hempleman described the characteristic leukopenia.

Objections have been made, however, to the nomenclature. Veeder and Hempleman objected to "roseola infantum," and proposed instead "exanthem subitum." Heiman calls the disease "the critical pre-eruptive fever." The term "roseola infantum" gives two characteristics of the disease: its efflorescence and its almost exclusive occurrence in infants. It is acceptable to mothers and grandmothers since the term roseola was used by older practitioners. It may be translated as *the* rose rash of infants. "Roseola" has been abandoned by dermatologists and can cause no confusion; its archaic qualities are lost when applied to a distinct clinical entity; it becomes a living appellation. It is no new performance in the history of medicine for a name applied to several diseases to be used to designate a definite clinical entity (e. g., rubeola, typhus).

The term "exanthem subitum" has many objections. As Kuhs and Garvin have so well stated, "this name will be a misnomer when the medical profession becomes familiar with the disease, and especially its early recognition, for then the exanthem will not be *subitum*, or "unexpected."

It should be remembered that two other diseases have critical, pre-eruptive fevers and the rash is so often sudden and unexpected; namely, variola (especially the mild Cuban variety) and dengue. "Exanthem subitum" does not offer an acceptable translation or abbreviation.

Roseola infantum is now recognized as a distinct clinical entity, a common disease in infants, more frequent than other well established exanthems.

JOHN ZAHORSKY, M.D., St. Louis.

### TISSUE ACIDOSIS

*To the Editor:*—Two recent editorials in THE JOURNAL concerning the reaction of the tissues, apropos of the interesting work of Peyton Rous, lead to the idea that extensive work has been done on the problem. If such work has been done, it has not been reported save in a few instances. In 1914, Michaelis (*Biochem. Ztschr.* **62**:180) experimented with expressed juices from organs (muscle) which had been (1) freshly excised, then mashed and the reaction determined; (2) excised and thrown into boiling water, and (3) excised and left to develop considerable acidity after death. The reactions obtained were, respectively $p_H$ 6.7, 6.92 and 6.8, calculated from the hydrogen ion concentration as given by them. They concluded that the reaction of the tissues was much more acid than the blood.

Since 1915, I have studied the problem by different methods and made reports, briefly, in the *Journal of Biological Chemistry* and in the *Proceedings of the Society for Experimental Biology and Medicine* for these years. The conclusion reached was similar to that of Michaelis that, as far as the evidence goes, the tissues have an acidity greater than that of the blood. Morse and van der Heyde (*Proc. Soc. Exper. Biol. & Med.* **19**:27, 1921) followed the reaction of mammalian liver that had been frozen in situ after laparotomy, excised immediately, ground in an ice-cold mortar and electrometric $p_H$ determination made of the mash. The first reading was obtained less than fifteen minutes after the death of the animal and about five minutes after the temperature of the material rose to 20 C. from 13 C., a temperature at which enzyme action is very slow. The reaction at 20 C. was $p_H$ 4.5. After an hour the reaction fell to neutrality ($p_H$ 7.0). Other reports were made in which the colorimetric method for $p_H$ determination was used and the results agreed. Bradley and Koehler later repeated some of this work and extended it, but found less acidity ($p_H$ 6.7 to 6.8) in the tissues examined. The work of Foster and Moyle in England, of Hopkins (Cambridge, England) and of others can be interpreted in similar ways. Finally, mention may be made of my attempt to determine the capacity of the tissue juice, expressed from fresh tissue chemically to bind carbon dioxid. The method was that of Van Slyke. The tissues examined were found to have a carbon dioxid combining power below that of normal blood. The interpretation of these findings is either: (1) that the true reaction of the tissues which were examined was acid, or (2) that the methods involved were inadequate to show the true reaction, owing to the almost explosive development of acid as Hopkins and others have shown.

Further than these reports, I know of no investigations that bear on the question.

WITHROW MORSE, Philadelphia.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### MEULENGRACHT, FOUCHET AND VAN DEN BERGH TESTS FOR JAUNDICE

*To the Editor:*—Will you please let me have the technic of the quantitative test of the Meulengracht, Fouchet and the van den Bergh tests for determining the presence of latent jaundice?

R. W. STONEBURNER, M.D., Montgomery, W. Va.

ANSWER.—Meulengracht constructed a bilirubin colorimeter which resembles the hemoglobinometer of Sahli; one test tube contains a standard pale yellow fluid; the other is graduated and used for diluting the blood serum. To perform the test, 3 c.c. of blood from a vein is placed in a test tube in which there is two drops of a 3 per cent. sodium oxalate solution to prevent coagulation; the contents are mixed and let stand from twelve to twenty-four hours for the erythrocytes to settle out; or the centrifuge may be used if one is in haste. Then 0.5 c.c. of the supernatant serum is put into the graduated test tube of the colorimeter and diluted with physiologic sodium chlorid solution until the color matches that of the standard solution in the colorimeter. The height of the fluid in the graduated tube shows the amount of bilirubin present. If, as in icterus, it is higher than 15, the serum must be previously diluted and the figure multiplied by the degree of dilution.

The Fouchet test for hyperbilirubinemia is an oxidation test, in which equal parts of blood serum and reagent are

used. According to Fouchet's description in the *Journal de pharmacie et de chimie*, the reagent consists of 5 gm. of trichloracetic acid, 20 c.c. of water and 2 c.c. of the official solution of ferric chlorid of the French pharmacopeia (this is equivalent to about 26 per cent. solution of ferric chlorid; it is somewhat weaker than the U. S. P. solution of ferric chlorid). It is said to give a green color when bilirubin is present in the blood serum in dilutions up to 1:60,000.

The van den Bergh test for bilirubinemia requires a colorimeter somewhat like that of Meulengracht. Blood is taken from a vein; 2 c.c. of the serum and 4 c.c. of alcohol (U. S. P.) are placed in a centrifuge tube and mixed, and then centrifugalized. Now 4 c.c. of the clear supernatant fluid is transferred to a 25 c.c. glass stoppered cylinder; 1 c.c. of the diazoreagent and 2 c.c. of alcohol, are added and mixed; the mixture is allowed to stand fifteen minutes, and is compared with the standard color solution in the colorimeter. As the serum is diluted five times, the colorimeter reading is multiplied by 5. The standard solution is made by dissolving 0.1508 gm. of ferrous ammonium sulphate in 50 c.c. of hydrochloric acid, U. S. P., and diluting to exactly 100 c.c.; to 10 c.c. of this stock solution, 25 c.c. of hydrochloric acid, U. S. P., is added and the mixture diluted to 250 c.c. This is then used for comparison; if, to 3 c.c. of this solution, 3 c.c. of a 20 per cent. solution of potassium thiocyanate and 12 c.c. of ether are added and the mixture is shaken until the color is absorbed by the ether, it has been found to be equivalent to 5 parts of bilirubin per million.

The diazoreagent is made by mixing 0.75 c.c. of a 0.5 per cent. solution of sodium nitrite in water with 25 c.c. of a solution prepared by dissolving 1 gm. of sulphanilic acid in 25 c.c. of hydrochloric acid, U. S. P., and diluting with water to 1 liter.

Meulengracht described his bilirubin colorimeter in the *Ugeskrift for Læger* (May 19, 1921, p. 655); Fouchet described his test in *Comptes rendus des séances et mémoires de la Société de biologie* **80**:826, 1917, and the *Journal de pharmacie et de chimie* **17**:44 (Jan. 16) 1918. Kolmer and Boerner's "Laboratory Diagnostic Methods" (p. 31) gives the technic of the van den Bergh test.

### PRESCRIPTIONS FOR NARCOTICS

*To the Editor:*—Druggists inform me that every prescription for morphin or cocain must state the diagnosis, as well as the patient's name, age and address. Does the narcotic act require this?

ALFRED LABENSKY, M.D., New London, Conn.

ANSWER.—The Harrison Narcotic Act does not require a physician to state on a prescription for a narcotic the disease or the age of the patient. Prescriptions for patients suffering from incurable painful diseases, and therefore requiring the long continued use of narcotics, usually in large doses, formerly had to "describe" the nature of the ailment; but by Treasury Decision 3426, Jan. 12, 1923, the physician was given the option of describing the ailment or of writing on the prescription, "Exception (1), Art. 117." Prescriptions for aged and infirm, and therefore incurable, addicts had to state the patient's age and infirmity; but under the treasury decision named above a physician may now either state those facts or write, "Exception (2), Art. 117."

The laws of Connecticut, so far as they are available, show nothing requiring a physician to state on his prescription for a narcotic the name of the disease for which it is prescribed or the patient's age.

### SALT AND ARTERIOSCLEROSIS

*To the Editor:*—In my experience, it is a very popular theory that common table salt causes arteriosclerosis: Is there any scientific basis for this? Is it definitely known that common table salt can cause any pathologic changes? Please omit my name. M.D., California.

ANSWER.—The relation of common salt to arteriosclerosis is certainly still controversial in regard both to etiology and to therapeutic effect. An abundant literature has developed on the subject, but the conclusions reached by different investigators are opposed. As far as we can ascertain, there is no definite knowledge that common table salt can cause any pathologic changes. Excesses of salt as of any other food element may contribute a certain share to the development of arteriosclerosis and hypertension, and in certain cases of renal disease with salt retention, reduction of the salt intake has a favorable therapeutic effect. More extensive statements do not seem justified on the basis of the scientific data so far accumulated.

# *Medical Education, Registration and Hospital Service*

## COMING EXAMINATIONS

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 19. Sec., Dr. H. W. Loeb, 1402 South Grand Blvd., St. Louis, Mo.

ARIZONA: Phoenix, Oct. 6-7. Sec., Dr. W. O. Sweek, 404 Heard Bldg., Phoenix.

CALIFORNIA: Sacramento, Oct. 19-22. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, Oct. 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, Sept. 8-9. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford.

DISTRICT OF COLUMBIA: Washington, Oct. 13. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.

FLORIDA: Tallahassee, Oct. 13-14. Sec., Dr. W. M. Rowlett, Citizens Bank Building, Tampa.

GEORGIA: Atlanta, Oct. 13-15. Sec., Dr. C. T. Nolan, Marietta.

HAWAII: Honolulu, Oct. 12-15. Sec., Dr. Guy C. Milnor, 401 Beretania St., Honolulu.

IDAHO: Boise, Oct. 6. Commissioner of Law Enforcement, Mr. F. A. Jeter, Boise.

ILLINOIS: Chicago, Oct. 6-8. Director, Mr. A. M. Shelton, Capitol Bldg., Springfield.

KANSAS: Topeka, Oct. 13. Sec., Dr. Albert S. Ross, Sabetha.

MICHIGAN: Lansing, Oct. 13-15. Sec., Dr. Guy L. Connor, 707 Strok Bldg., Detroit.

MINNESOTA: Minneapolis, Oct. 6-8. Sec., Dr. Thomas S. McDavitt, Lowry Bldg., St. Paul.

MONTANA: Helena, Oct. 6. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

MISSOURI: Kansas City, Oct. 27-30. Sec., Dr. James Stewart, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part III, Baltimore, Oct. 15. All applications for this examination must be made on or before Oct. 1. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.

NEW HAMPSHIRE: Concord, Sept. 10-11. Sec., Dr. Charles Duncan, Concord.

NEW JERSEY: Trenton, Oct. 20-21. Sec., Dr. Alex. Macalister, Trenton Trust Bldg., Trenton.

NEW MEXICO: Santa Fe, Oct. 12-13. Sec., Dr. W. T. Joyner, Roswell.

NEW YORK: Albany, Buffalo, New York City and Syracuse, Sept. 21-24. Chief, Education Dept., Mr. Herbert J. Hamilton, Albany.

OKLAHOMA: Oklahoma City, Sept. 8-9. Sec., Dr. James M. Byrum, Shawnee.

RHODE ISLAND: Providence, Oct. 1. Sec., Dr. Byron U. Richards, State House, Providence.

UTAH: Salt Lake City, Oct. 6. Director of Regis., Mr. J. T. Hammond, 412 State Capitol Bldg., Salt Lake City.

WYOMING: Cheyenne, Oct. 5-7. Sec., Dr. G. M. Anderson, State Capitol, Cheyenne.

### Alabama July Examination

Dr. Samuel W. Welch, chairman, Alabama Board of Medical Examiners, reports the written examination held at Montgomery, July 13, 1925. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Twenty-two candidates were examined, all of whom passed. Eight candidates were licensed by reciprocity. The following colleges were represented:

| PASSED | | |
|---|---|---|
| College | Year Grad. | Per Cent. |
| Howard University School of Medicine | (1925) | 92.4 |
| Emory University School of Medicine | (1925) | 79.3, 83.2, 84.2, 86.5, 86.5, 86.8, 88.5 |
| Tulane University School of Medicine | (1921) (1924) | 89.9, 91.1, 85.4, 86.9, 88.1, 89.1, 94 |
| University of Pennsylvania | (1924) | 92.4 |
| Meharry Medical College | (1925) | 82.9 |
| University of Tennessee College of Medicine | (1925) | 79.7 |
| Vanderbilt University School of Medicine | (1925) | 83.7 |
| University of Virginia School of Medicine | (1925) | 87.9, 89 |

| LICENSED BY RECIPROCITY | | |
|---|---|---|
| College | Year Grad. | Reciprocity with |
| Georgetown University School of Medicine | (1922) | Dist. Colum. |
| Emory University School of Medicine | (1924) | Georgia |
| University of Georgia School of Medicine | (1922), (1924) | Georgia |
| Kentucky School of Medicine | (1901) | Mississippi |
| University of Nebraska School of Medicine | (1904) | Wyoming |
| Meharry Medical College | (1921) | Tennessee |
| Vanderbilt University School of Medicine | (1924) | Tennessee |

### Hawaii July Examination

Dr. Guy C. Milnor, secretary, Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, July 13-16, 1925. The examination covered 10 subjects and included 50 questions. An average of 75 per cent. was required to pass. Three candidates were examined, all of whom passed. The following colleges were represented:

| PASSED | | |
|---|---|---|
| College | Year Grad. | Per Cent. |
| Harvard University | (1904) | 77.5 |
| Washington University School of Medicine | (1925) | 86.2 |
| Columbia University | (1923) | 91.1 |

# Book Notices

GENETIC STUDIES OF GENIUS. Volume I. Mental and Physical Traits of a Thousand Gifted Children. By Lewis M. Terman. Cloth. Price, $5. Pp. 648. Stanford University: Stanford University Press, 1925.

Educators have constantly been interested in the nature, the origin and the cultivation of genius. Under a grant from the Commonwealth and Thomas Welton Stanford funds, investigators in the department of psychology of Stanford University have been concerning themselves with these problems. The first volume of their researches deals primarily with the nature of genius so far as it is indicated by the mental and physical traits of intellectually superior children. Data were collected on more than 1,400 children, each of whom ranges within the top 1 per cent. of an unselected school population. The greater part of the report deals with 643 such children, especially selected as a typical group. Among factors to which attention is given are anthropometric measurements, specialization of abilities, reading interests, tests of intellectual and social activities, character and personality.

The group contained a significant, though not overwhelming preponderance of boys, which is explained as possibly due to the fact that there is a greater variability among boys than among girls. In physical growth and in general health, the gifted children unquestionably rate somewhat above the average. Indeed, the authors state that "there is no shred of evidence to support the widespread opinion that typically the intellectually precocious child is weak, undersized, or nervously unstable."

There was found to be a marked excess of Jewish and of northern and western European stock among the 1,000 gifted children, and the investigators were impressed by the fact that these children had an unusual number of highly successful and even eminent relatives. Another factor of importance seemed to be that the gifted children were in most instances those of persons in the higher occupational levels, so that in spite of efforts to equalize educational opportunity, the 10 year old child of a California laborer did not compete for a high intelligence rank any more successfully than did the laborer's son in Europe a hundred years ago.

In the majority of cases, the superiority of the gifted child is shown at an early age by intellectual curiosity, wealth of miscellaneous information and a desire to learn to read. The school subjects which the gifted children liked best were for the most part those which unselected children found the most difficult. The reading of gifted children surpassed that of unselected children both in quality and in quantity. The typical gifted child of 7 years reads more books than the unselected child reads at any age up to 15 years. At the same time, it was found that intellectually superior children are not characterized by a deficiency of play.

The report brings out many points of great interest in psychologic, biologic and educational fields. It should be read and studied by all who are interested in such problems.

LUMBAR PUNCTURE. Its Anatomical and Physiological Relations, Technique, Methods of Investigation, Diagnostic Value and Therapeutical Applications. With an Appendix on Encephalography and Puncture of the Cisterna. By Martin Pappenheim, M.D., Professor at the University of Vienna. Translated by George Caffrey. Cloth. Price, $5. Pp. 248, with 9 illustrations. New York: William Wood & Co., 1925.

Pappenheim covers the technic of spinal puncture with masterly detail. Cases in which a lumbar puncture is related to the death of the patient he considers decidedly rare and confined without exception to cases of severe illness. He advises, nevertheless, that lumbar puncture be not done on an ambulant patient. The patient should be in bed in a position of complete rest for twenty-four hours after the operation, and should not even walk from the operating table to the bed. The measurement of the pressure of the spinal fluid is a simple and always necessary procedure at the time of puncture, and the normal pressure is between 40 and 150 mm. of water; anything over 200 is pathologic. In the most interesting chapter of the book, "The Diagnostic Import of Lumbar Puncture," it is pointed out that the specific organisms are not always demonstrable in meningeal infections, and that cultures can sometimes be grown from clear spinal fluid. He says also that in multiple sclerosis, the infectious character of which has not yet been established, abnormal spinal fluid reactions, although slight, are found in most cases. An increase in the protein was found, which in only a few cases reached the average intensity of the changes found in syphilis. Great changes in the spinal fluid are generally associated with typhus fever, in which there is a positive hemolysin reaction, a positive Weil-Felix reaction and an increase in the cells and albumin. An abundance of interesting information is contained in this small volume, one of the most useful parts of which is the chapter on "Therapeutical Applications." Nothing seems to have been included on the recent work with tryparsamide. The author finished his revision for the English edition in December, 1923, adding, among other things, to the German edition an appendix on encephalography and another on puncture of the cisterna.

PROCEDURES IN NURSING. Preliminary and Advanced. By Annabella McCrae, Instructor in Practical Nursing at the Massachusetts General Hospital Training School for Nurses. Part II. Cloth. Price, $1.50. Pp. 532, with illustrations. Boston: M. Barrows & Company, 1925.

The present volume deals with the procedures of more advanced medical and surgical nursing. The common treatments and preparations necessary for treatment of diseases of the eye, ear, nose and throat are outlined, also, the technic for giving hot air baths, packs, slushes, or bed shower baths, and other special baths, care of the mouth, stomach irrigation, and gastric analysis and duodenal drainage. The preparation for intravenous operations, cistern puncture and lumbar puncture is described in detail. Methods of artificial feeding are explained. Under special chapters on surgical nursing are included methods of control of hemorrhage and shock, hypodermoclysis, intravenous infusions, transfusion of blood, proctoclysis, and the ordinary surgical dressings. Preparation for dressings with surgical solution of chlorinated soda, when the Carrel method of treatment of wounds is employed, is described in detail. There are chapters on genito-urinary nursing, including cystoscopy, bladder irrigation and instillation, and the application of a female self-retaining catheter. This is a useful small volume dealing with many special procedures, and is about the size required for a textbook in the nursing schools.

HYPNOSE. Methodik der Erzielung des hypnotischen Schlafes bei Menschen. Von August Bostroem. Methodik der Versuche über tierische Hypnose. Von Ernst Mangold. Handbuch der biologischen Arbeitsmethoden. Herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden. Abt. VI, Methoden der experimentellen Psychologie, Teil C', Heft 5. Lieferung 159. Paper. Price, 3.30 marks. Pp. 87, with 16 illustrations. Berlin: Urban & Schwarzenberg, 1925.

The treatment of war-time neurosis in Germany and elsewhere brought with it a revival of interest in hypnosis. Dr. Bostroem gives a simple statement of methods, confining himself largely to the technic he used under Professor Nonne. A comparison of this monograph with earlier works makes evident that the methods of hypnosis on the whole have undergone no marked change in the last decade or more. The beginner can obtain a clear conception from this succinct presentation. The author is conservative and cautious in his statements as to what can be done through hypnosis. No mention is made of the psychanalytic conception of hypnosis. He himself has never noted any change produced in the pulse or blood pressure, respiration or the reflexes. He divides hypnosis briefly into two kinds, as characterized by subsequent memory or amnesia, and observes that catalepsy and lethargy are more to be considered as the results of special suggestions than as stages of hypnotic sleep. It is to be regretted that he has not said more about the use of electric currents and other devices in connection with hypnosis, and that he has not given a fuller account of post-hypnotic suggestion. Dr. Mangold presents a complete and systematic account of the methods used to hypnotize animals. He draws both on his own extensive experience and on a wide literature. Some of the descriptions are briefly made.

For instance, a hen is placed sitting on a table and its head pushed down with a sudden movement of the right hand, while the left hand restrains its wings. A common method is suddenly to turn the animal on its back while restricting its movements. In extreme cases, operations may be performed. Hypnotic methods are described for various birds, reptiles, amphibia, fishes, arthropods, including crustacea, and various insects. Apparatus is described for the experimental study of hypnotic conditions. By mechanical devices, factors that disturb the onset of hypnosis are avoided and in this way more accurate estimation can be made of the time used to hypnotize an animal. This is important, because the disposition toward hypnosis is measured in terms of speed of the onset and the duration of the state. The author also discusses the measurement of certain reflex times during hypnosis, noting a decrease in reflex irritability.

COLDS: CAUSE, TREATMENT AND PREVENTION. By Russell L. Cecil, M.D., Assistant Professor of Clinical Medicine in Cornell University Medical College. Cloth. Price, $1. Pp. 111, with 2 illustrations. New York: D. Appleton & Company, 1925.

The common "cold" is the most ubiquitous of human ailments. This little book seeks to furnish to the nonmedical reader an answer to such questions as "What is a cold? What causes colds? Are they catching? Are 'grip' and 'flu' anything more than severe colds afflicting large numbers of persons at the same time?" The brief description of the anatomy and physiology of the upper air passages is sufficient for the layman. Correction should be made in the next edition of the statement on page 9 that the eustachian tube connects with the "internal" ear. The division of colds into two groups, the noncontagious and the contagious, is in accord with the majority of opinion, and the conditions that predispose to or cause colds are well described. Asthma and hay-fever, grip and influenza, pneumonia and other complications are discussed. The advice given in the chapters on the treatment and the prevention of colds is, on the whole, sound and sensible. Exception must be taken, however, to some of the suggestions made. The application of protargin mild or any similar remedy is better made under a physician's direction. The advice that "if you feel feverish call in a family physician" is excellent, but the direction "if the cold hangs on after a week or ten days consult a nose and throat specialist" is not. One of the customs of our time which needs most to be discouraged is that of the self diagnosis by the layman of his own condition and his resort to the specialist whom he fancies he should consult. The judgment of those physicians whose opinion is most entitled to weight is adverse to the use of either autogenous or stock vaccines as preventive of colds. The evidence that they have any value, either as a prophylactic or as a cure of "colds," is inconclusive.

PHYSIOLOGIE UND PATHOLOGIE DES SÄUGLINGSMAGENS. Von Dr. S. Rosenbaum, Assistenzarzt der Klinik. Abhandlungen aus der Kinderheilkunde und ihren Grenzgebieten. Heft 4. Paper. Price, 3 marks. Pp. 60. Berlin: S. Karger, 1925.

This is divided into two sections. The first is devoted to physiology, with subdivisions covering motility, secretion, digestion and absorption, and innervation; the second, to pathology, with detailed consideration of abnormal motility, secretion and bacterial flora. The subjects are treated in a concise manner, and the monograph can be recommended to those interested in the later researches dealing with digestion and metabolism in infancy.

A COMPANION TO MANUALS OF PRACTICAL ANATOMY. By E. B. Jamieson, M.D., Senior Demonstrator and Lecturer on Anatomy, University of Edinburgh. Second edition. Cloth. Price, $5. Pp. 558. New York: William Wood & Company, 1925.

This is a companion to Cunningham's Manual of Practical Anatomy. It is evidently intended to help students prepare for written examinations on regional anatomy, and for oral examinations conducted without the cadaver. There are no illustrations. The text is reduced to a minimum. Sentences are syncopated and incomplete. But it covers thoroughly the field treated in the manuals, and has in addition a condensed account of development. It will undoubtedly be useful to students preparing for the kind of examination that tests a student's ability to give a word picture of anatomic structures by regions. As a means of helping a student to acquire or review a knowledge of structures, it is decidedly inferior to any good atlas. As a means of getting an understanding of the functional anatomy of the system of structures, arterial, nervous, lymphatic, that make up the body, it is far inferior to the textbooks. The method of reviewing anatomy which it encourages is tedious and gives poor returns even in preparation for verbal examinations. Regional review by the study of regional word pictures is inferior to review by the study of atlases or texts.

THE PRACTICE OF PEDIATRICS. By Charles Gilmore Kerley, Attending Physician to the New York Nursery and Child's Hospital, and Gaylord Willis Graves, Associate in Diseases of Children in the College of Physicians and Surgeons (Columbia University). Third edition. Cloth. Price, $9 net. Pp. 922, with 150 illustrations. Philadelphia: W. B. Saunders Company, 1924.

This edition is based largely, as were the previous editions, on the author's personal experiences. In many instances, case histories from his files are recorded, which adds to the practical value of the volume. For the artificially fed infant, Kerley expresses a preference for top milk mixtures. In his roentgen-ray studies of developmental abnormalities in the intestinal tract, he goes into greater detail than most works covering this field. Taken as a whole, this volume covers the diseases of infancy and childhood in a comprehensive and practical manner. Several especially practical chapters concern essentials in the care of acute illness and special diagnostic methods and therapeutic measures. The treatment of a number of conditions, such as celiac diseases, acrodynia and the care of premature infants, have apparently been slighted.

CHIRURGIE DER SPORTUNFÄLLE. Ein Leitfaden für Studierende und Aerzte (Sportärzte). Von Dr. Felix Mandl, Assistent der II. chirurg. Universitätsklinik in Wien. Paper. Price, 12 marks. Pp. 303, with 71 illustrations. Berlin: Urban & Schwarzenberg, 1925.

This is a small volume devoted to the injuries peculiar to outdoor sports, including football, hockey, tennis, wrestling and swimming. The presentation of such obscure traumatic lesions of the soft tissues as muscular and ligamentous tears is well worth while. Though nothing in the way of new material is presented, the author discusses diagnosis and mechanism in a more detailed way than one finds in the average textbook on surgery. The book is as interesting as it is unusual.

FROM INFANCY TO CHILDHOOD. The Child From Two to Six Years. By Richard M. Smith, M.D., Assistant Professor of Child Hygiene, Harvard University. Cloth. Price, $1.25. Pp. 105. Boston: The Atlantic Monthly Press, 1925.

This is a practical work covering rules for care and guidance by the parents of children through the transition period between the second and sixth years. The author believes this to be one of the most important periods of physical and mental growth. The first chapter, on "Doctor, Mother and Nurse," is followed by comprehensive chapters on the physical development of the child, care of the body, clothes, food, daily routine, training and education.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. Bathe Rawling, M.B., B.C., F.R.C.S., Surgeon to St. Bartholomew's Hospital. Sixth edition. Cloth. Price, $3. Pp. 97, with 36 illustrations. New York: Paul B. Hoeber, Inc., 1925.

This is a handbook for surgeons and students of surgery. It is in the form of a practical course, indicating the surface markings on the living subject with which a surgeon must be familiar. Immediate practical usefulness has been the prime consideration in its compilation. It is brief, practical and serviceable. The twenty-eight full-page plates made especially for this book are clear and definite. Three appendixes tabulate the length of various passages, the weight of some organs, and the time of commencement of ossification and union of epiphyses of the bones of the extremities, according to Gray's Anatomy. The fact that it has come to a sixth edition is evidence that the object of producing a useful tabulation has been attained.

# Medicolegal

### Liability for Injury by Ambulance

*(West v. Jaloff (Ore.), 232 Pac. R. 642)*

The Supreme Court of Oregon, in affirming a judgment for $9,600 damages for an injury to the plaintiff arising from the alleged negligent driving of an ambulance owned by the defendant, says that there was sufficient in the complaint to sustain a verdict on the common-law allegations of negligence. Unless such a vehicle is exempted by the statute from such liability, there is no exemption. Granting the right of way to an ambulance is one thing, and granting the right to exceed the statutory speed is another. Whatever right of way the defendant's machine may have had by virtue of its being an ambulance had no relation to the speed at which it was traveling, if such speed was above the statutory limit for automobiles in general, and in respect to speed in this particular case there was abundant evidence to go to the jury that the speed was above the statutory limit. A number of cases were cited to the effect that drivers of emergency vehicles are not liable for injuries inflicted, on the ground that such emergency vehicles are acting in a governmental capacity; but none of those cases went beyond the rule that such vehicles, in order to be exempt from liability, must be in the actual service of the city, either by reason of the city's ownership of them or because the vehicle is being used under contract with the city; neither of which facts appeared in this case. The defendant was liable for ordinary negligence, if such negligence was the proximate cause of the injury. Nor was there any testimony here of any such emergency as would justify using the vehicle at a rate of speed greater than that prescribed for other automobiles. A physician testified that he sent the defendant's driver to bring "a case," as he expressed it, that is, a sick woman, to the hospital; but there was nothing in the testimony to indicate that there was any emergency that required any greater speed than an ordinary automobile would be expected to use under the same circumstances.

### Prohibiting Use of Saccharin in Bottled Soft Drinks

*(Longbrake v. State (Ohio), 146 N. E. R. 417)*

The Supreme Court of Ohio, in affirming a judgment of conviction of defendant Longbrake of violating Section 1089—9 of the general code of that state, holds that this section, prohibiting the use of saccharin in bottled soft drinks, is constitutionally valid and within the inherent police powers of the state. The court says that it was true that in the instant case the state did not prove that the one-sixth grain contained in the 8-ounce bottle of pop sold by the defendant would be in way deleterious to health. However, that did not meet the possibility that other manufacturers of soft drinks might use a much larger quantity of saccharin in its manufacture, or use it as a substitute for sugar because of its intensive sweetening power. The court cannot inquire into the motive of the legislature in prohibiting, and not regulating, the use of this ingredient. Whether because its continuous and unrestricted use would menace the public health, or because of the difficulty of inspection, or for the reason that it might replace sugar because of its sweetening power, this court is unable to determine; but the fact remains that the legislature unqualifiedly provided in the act that saccharin could not be used either as a substitute for sugar or otherwise. It was contended by the defendant that the act is discriminatory in that it seeks to prevent the use of saccharin in bottled soft drinks only and that such prohibition is not confined to other soft drinks or food products in general daily use. But while the act was thus questioned as to its application to soft drinks other than bottled, it evidently covers all soft drinks in which saccharin is used. The department of agriculture has so construed it and issued its regulations accordingly, forbidding the use of saccharin in all food and drink products. This court has no means of knowing why the legislature confined this prohibition to soft drinks. Undoubtedly it could have adopted a reasonable regulation in respect thereto, or extended the field of inquiry so as to cover other food or drink products. However, this is no argument against the utilization of the police power in respect to bottled soft drinks. The constitutional validity of the act cannot be attacked because its scope was not extended to cover the entire field of possible abuses.

### Quo Warranto Against Chiropractor—Burden of Proof

*(Robinson v. State ex rel. James (Ala.), 102 So. R. 693)*

The Supreme Court of Alabama, in affirming a judgment which excluded and prohibited defendant Robinson from practicing the profession of treating or offering to treat diseases of human beings, says that this was an action in the nature of quo warranto. This action may be brought in the name of the state against the person offending, when that person intrudes into any profession requiring a license or certificate or other legal authorization within the state of Alabama. The treatment of diseases of human beings in Alabama is a profession, calling for and requiring a certificate of qualification from the state board of medical examiners before a person can practice the profession. It appeared from the evidence that the defendant was a chiropractor, and that he offered his services as such to the public, and treated human beings by the system of chiropractic—was practicing that profession, but was he doing so unlawfully, as an intruder, without certificate of qualification, without license from the state medical examiners, as the petitioner alleged? There was no proof to sustain these averments. The proof of these facts is peculiarly within the knowledge of the defendant, and when the state proves acts done by the defendant which he is prohibited by statute from doing, unless he has authority by certificate or license to do the acts, then the burden of showing the authority by proper certificate or license is shifted to the defendant. In this case the state by proof showed that the defendant, since Aug. 18, 1924, was practicing a profession, treating, or offering to treat, diseases of human beings, in Dallas County. The statutes require that he should have, before doing so, procured a certificate of qualification from the state board of medical examiners of Alabama. After this proof was made, the burden then shifted on the defendant to show a lawful authority to practice this profession. This he failed to do; he offered no evidence; and the trial court properly entered a judgment of exclusion and prohibition against him.

### Insufficient Evidence as to Who Left Gauze—Ruling as to Surgeon for Part of Operation

*(De Rose et ux. v. Hirst (Pa.), 127 Atl. R. 776)*

The Supreme Court of Pennsylvania, in affirming a judgment of nonsuit in this action brought by husband and wife, says that the plaintiffs' regularly employed physician engaged the defendant to perform an abdominal operation on Mrs. De Rose. The defendant did not perform the entire operation, but, after making the necessary incisions and opening the abscess which was the seat of trouble, left the operating room, with the wound open. The duty to clean it out and sew it up so far as sewing was required was on said other physician, who assisted in the operation. Called as a witness, the latter testified, without contradiction, that the gauze pads which were used were counted by the defendant before they were introduced into the plaintiff's body and that when the defendant completed his part of the operation they were removed and again counted by the defendant, and that the prior and subsequent computations agreed. He further said that following the operation it was necessary to place in the wound a piece of gauze several feet in length for drainage purposes, and that in sewing up the wound, after the defendant had left the operating room, having completed the surgery he was engaged to do, it was necessary to use pads for the purpose of sopping up blood. Some fifteen months afterward, another physician removed from the body of Mrs. De Rose a piece of gauze, which was brought to her in a jar filled with alcohol, and which was subsequently thrown away. This physician said that the substance removed was a very closely packed piece of gauze, so closely packed in the incision

that to pull it out took force, but he could not recall the size of it, or whether it was the kind of pack used in the performance of operations by surgeons.

Under the circumstances here manifest it could not properly or reasonably be held that the plaintiff's designation of the substance as a "pad" was sufficient on which to place the defendant's liability. She asked that, from this statement, the inference be drawn that it was one of the pads used by the defendant when he operated on her. In view of the fact that the physician who extracted the gauze from her body, and the physician who completed the original operation (to whom she exhibited the gauze), could not identify it, and, in the light of the further facts that the latter physician in closing the incision after the defendant had departed also used pads of gauze to sop up the blood in her abdomen and that admittedly several feet of gauze were purposely and properly left in the wound after the operation for the purpose of drainage, no such compelling inference arose. The facts that a woman who was present when the substance was removed designated it as a "big long piece of packing," and another witness, who accompanied the plaintiff when she took the material in the jar to the physician to whom she exhibited it, spoke of it as a pad, were not sufficient to establish the conclusion necessary to the plaintiff's right to recover damages from the defendant.

The plaintiffs sought to bring this case within the rule of *Davis* v. *Kerr*, 239 Pa. 351, 86 Atl. 1007, and consequently to impose on the defendant the burden of rebutting the presumption of negligence arising from the fact that a foreign object was allowed to remain in the body of Mrs. De Rose without any plan for its removal. Manifestly, the rule of the cited case could not be applied here in view of the defendant's part in the operation. He did not, as did the defendant in that case, carry the operation through to completion; others, for whose actions he would not be responsible, were involved, and, so far as the evidence showed, it was just as probable that they committed the act on which this case was founded, as that he was guilty of it. Starting, as the court did, with the presumption against the defendant's negligence, and having only testimony which showed that the plaintiff's injuries were caused by an act either of the defendant or of some one else not connected with him (the defendant not having undertaken by contract or otherwise to see that the entire operation was performed with due care), the plaintiffs' case was not proved with that degree of certainty which the law requires to warrant submission to a jury.

### Ill Health and Wounds as Grounds for Granting Bail

*(Ex parte Robards (Okla.), 233 Pac. R. 247)*

The Criminal Court of Appeals of Oklahoma in granting an application for the release of the petitioner on bail, when he was being held in jail for a new trial on a charge of robbery with firearms, holds that the granting or denying of bail on the ground of bad health and a gunshot wound, requiring surgical treatment in a hospital, is a matter within the sound discretion of the court. When it is clearly shown that a defendant confined to jail for a capital offense is suffering from gunshot wounds and other ailments likely to be aggravated by the continuance of such confinement, and that it will be several weeks before he can be tried, he will be admitted to bail. By numerous decisions of this court it is held that, when it is made clearly to appear by the testimony of competent physicians, who have examined the physical condition of the prisoner at the time application is made for his admittance to bail, that there is strong ground for the opinion that continued confinement would cause the disease from which the prisoner is then suffering to terminate fatally, he should be released on bail.

### Anger, Passion, Irresistible Impulse, Moral Insanity

*(Collins v. State (Fla.), 102 So. R. 880)*

The Supreme Court of Florida, Division A, in affirming a judgment of conviction of defendant Collins of manslaughter, says that anger is a motive which sometimes impels one to murder another, but because it is overwhelming in its force and sweeps prudence and consideration aside it is none the less a motive, and is in no degree an excuse that will relieve the affected one from responsibility for criminal homicide. Such state cannot be said to be that of an insane person.

The law reduces the killing of a person in the heat of passion from murder to manslaughter out of a recognition of the frallity of human nature, of the temporary suspension or overthrow of the reason or judgment of the defendant by the sudden access of passion and because in such case there is an absence of malice. Such killing is not supposed to proceed from a bad or corrupt heart, but rather from the infirmity of passion to which even good men are subject. Passion is the state of mind when it is powerfully acted on and influenced by something external to itself. It is one of the emotions of the mind known as anger, rage, sudden resentment, or terror. But for passion to constitute a mitigation of the crime from murder to manslaghter, it must arise from legal provocation. Furthermore, the slayer cannot take time and deliberate on the wrong and then act on an impulse to avenge the wrong by taking the life of the wrongdoer. If reasonable time has elapsed for the passions to cool, or if, after merely learning of an outrage against his marital rights, the wronged individual immediately takes vengeance on the wrongdoer by pursuing and killing him, the offense is murder, not manslaughter.

The doctrine of "irresistible impulse" or "moral insanity" is not recognized in the state of Florida as an excuse for an unlawful act.

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## Society Proceedings

### COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 20-24. Dr. Luther C. Peter, Chestnut and 20th Streets, Philadelphia, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Hot Springs, Va., Sept. 16-18. Dr. James E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Association of Railway Surgeons, Chicago, Oct. 21-23. Dr. Louis J. Mitchell, 29 East Madison Street, Chicago, Secretary.

American College of Radiology and Physiotherapy, Chicago, Oct. 19-22. Dr. Roy W. Fouts, 121 South 33d Street, Omaha, Neb., Secretary.

American College of Surgeons, Philadelphia, Oct. 26-30. Dr. Franklin H. Martin, 40 East Erie Street, Chicago, Director-General.

American Electrotherapeutic Association, Chicago, Sept. 15-17. Dr. Richard Kovacs, 223 East 68th Street, New York, Secretary.

American Public Health Association, St. Louis, Oct. 19-22. Mr. Homer N. Calver, 370 Seventh Avenue, New York, Executive Secretary.

American Roentgen Ray Society, Washington, D. C., Sept. 22-25. Dr. Charles L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

Association of Military Surgeons of the United States, New York, Oct. 8-10. Col. J. R. Kean, U. S. A. Ret., Army Medical Museum, Washington, D. C., Secretary.

Colorado State Medical Society, Colorado Springs, Sept. 29-Oct. 1. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Delaware State Medical Society, Wilmington, Oct. 13-14. Dr. W. O. La Motte, Industrial Trust Building, Wilmington, Secretary.

Indiana State Medical Association, Marion, Sept. 23-25. Mr. T. A. Hendricks, Hume Mansur Building, Indianapolis, Executive Secretary.

Interstate Postgraduate Assembly of America, St. Paul, Minn., Oct. 12-16. Dr. W. B. Peck, 82 Stephenson St., Freeport, Ill., Managing Director.

Kansas City Clinical Society, Kansas City, Mo., Oct. 5-9. Dr. James R. McVay, Rialto Building, Kansas City, Mo., Secretary.

Kentucky State Medical Association, Owensboro, Oct. 5-9. Dr. A. T. McCormack, 532 West Main Street, Louisville, Secretary.

Michigan State Medical Society, Muskegon, Sept. 8-10. Dr. F. C. Warnshuis, Powers Theatre Building, Grand Rapids, Secretary.

Mississippi Valley Conference on Tuberculosis, Lansing, Mich., Sept. 15-17. Dr. T. J. Werle, 209 W. Shiawassee Street, Lansing, Mich., Executive Secretary.

Missouri Valley, Medical Society of the, St. Joseph, Sept. 30-Oct. 2. Dr. Charles Wood Fassett, 115 East 31st Street, Kansas City, Mo., Secretary.

Nevada State Medical Association, Elko, Sept. 4-6. Dr. C. E. Piersall, 17 N. Virginia Street, Reno, Secretary.

Pennsylvania, Medical Society of the State of, Harrisburg, Oct. 5-8. Dr. Walter F. Donaldson, Jenkins Arcade, Pittsburgh, Secretary.

Utah State Medical Association, Salt Lake City, Sept. 7-12. Dr. William L. Rich, Boston Building, Salt Lake City, Secretary.

Vermont State Medical Society, St. Johnsbury, Oct. 15-16. Dr. William G. Ricker, 29 Main Street, St. Johnsbury, Secretary.

Virginia, Medical Society of, Richmond, Oct. 13-16. Miss Agnes V. Edwards, 104½ West Grace Street, Richmond, Secretary.

Washington State Medical Association, Seattle, Sept. 17-19. Dr. C. H. Thomson, Cobb Building, Seattle, Secretary.

Wisconsin, State Medical Society of, Milwaukee, Sept. 16-18. Mr. J. G. Crownhart, 558 Jefferson Street, Milwaukee, Executive Secretary.

# Current Medical Literature

## AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).
Titles marked with an asterisk (*) are abstracted below.

### American Journal of Medical Sciences, Philadelphia

**170:** 1-156 (July) 1925

*Prevention of Simple Goiter. J. C. Hathaway, Minneapolis.—p. 1.
*Purpura Hemorrhagica (Thrombocytopenic Purpura) with Splenectomy. D. L. Farley, Philadelphia.—p. 10.
Wassermann-Fast Syphilitics Treated with Bismuth. L. K. McCafferty and J. A. MacGregor, New York.—p. 22.
*Wassermann Reaction in Blood and Spinal Fluid of Paretic Neurosyphilis. Wm. C. Menninger and K. A. Menninger, Topeka, Kan.—p. 27.
*Conditions Simulating Acute Lymphatic Leukemia (Infectious Mononucleosis. Tuberculosis). J. F. Landon, New York.—p. 37.
*Differentiation of Amebic Dysentery from So-Called Idiopathic Ulcerative Colitis. L. H. Mayers and E. F. Hirsch, Chicago.—p. 43.
*Duodenal Diverticulosis; Case Seen Roentgenologically. E. W. Lipschultz, Brooklyn.—p. 53.
*Three Cases of Tularemia, One Resembling Sporotrichosis. F. C. Hodges, Huntington, W. Va.—p. 57.
*Malignant Tumors of Thyroid: Seven Cases; Structure and Function of Metastases. D. Eisen, New York.—p. 61.
*Kottman Reaction in Thyroid Dysfunction. D. W. Kramer, Philadelphia.—p. 75.
Cerebrospinal Fluid in Infants and Young Children. S. McLean, New York., and F. H. von Hofe, South Orange, N. J.—p. 82.
*Early Bed Sores as Diagnostic Sign of Carbon Monoxid Poisoning. M. A. Rabinowitz, Brooklyn.—p. 98.
Primary Carcinoma of Lung. H. M. Moses, Brooklyn.—p. 102.
Blood Transfusion: Its Dangers and Limited Value. J. F. Baldwin, Columbus, Ohio.—p. 118.

**Prevention of Simple Goiter.**—In Hathaway's opinion, a method which would control the goiter situation should consist of the following: (1) Detailed surveys of all localities where goiter is suspected. (2) The institution of treatment with sodium iodid of the water supplies of all cities and towns which prove to be goitrous. (3) Small villages not having a common water supply, and rural communities, must have iodin supplied either by the use of iodized table salt or by iodin tablets of some kind.

**Splenectomy for Purpura Hemorrhagica.**—A splenectomy was done in Farley's case after preliminary blood transfusion. Following the splenectomy the patient ceased to bleed from the gums. Vaginal bleeding continued until the uterine cavity was packed. After operation, repeated transfusions of whole blood were given. The effect of raising the hemoglobin and red cell content of the blood was only temporary, though there was no gross evidence of red cell destruction such as jaundice. The patient died apparently of anemia and exhaustion despite repeated transfusions. After splenectomy, there was an enormous increase of nucleated red cells with a large number of leukocytes of myeloblastic origin.

**Bismuth for Wassermann-Fast Syphilitics.**—The Menningers believe that bismuth has a real and lasting place in treating Wassermann-fast syphilitics. In view of the fact that the Wassermann has remained negative for nearly a year or more in a large percentage of their patients, they believe that the permanency of this reduction cannot be denied.

**Diagnosis of Acute Lymphatic Leukemia.**—Landon holds that a high absolute and relative mononuclear count, persistent fever and enlarged lymph nodes are not enough evidence to establish the diagnosis of acute lymphatic leukemia. This diagnosis must wait on the progressive development of symptoms and until repeated blood examinations have demonstrated thoroughly typical blood changes.

**Amebic Dysentery and Ulcerative Colitis.**—Mayers and Hirsch insist that the possibility of amebic infection in patients with a chronic ulcerative colitis should be considered, and there should be a search for amebas before a diagnosis of idiopathic ulcerative colitis is made. The usual medication, including large doses of kaolin, bismuth and other astringents, is not indicated when the infection is definitely amebic. Because of the extensive ulceration and friability of the bowel wall in amebic dysentery, the proctoscope should be used with extreme caution.

**Duodenal Diverticulum.**—A case of duodenal diverticulosis, showing two diverticula in the second and third portions of the duodenum, respectively, with roentgenographic findings, is reported by Lipschultz. Various theories as to the etiology of this anomaly are quoted.

**Tularemia.**—Three cases proven to be tularemia are reported by Hodges, all of which were contracted from handling infected rabbits. One case resembled sporotrichosis, and had a complicating tularemic conjunctivitis. The others ran a course similar to the average described case. No treatment of proven merit was employed.

**Malignant Tumor of Thyroid.**—Seven cases of malignant tumor of the thyroid are analyzed by Eisen, one sarcoma and six carcinomas. Of these, one patient shows healing of a spontaneous fracture from a metastasis from a sarcoma of the thyroid and is alive and about his work three and a half years after the clinical onset of the disease. Another, after a lobectomy performed one year after the clinical onset of the disease is apparently well with no sign of recurrence two years after the operation. One patient showed an unusually wide distribution of the metastases and developed a paraplegia. At necropsy this was found to be due to a metastasis lodged in the vertebral column as an extension process from a metastasis in the rib. This had caused definite vertebral distruction and cord compression, but did not show up in the roentgenogram during life. In this case, there was no evidence clinically or pathologically of any lymphatic dissemination. Hematogenous dissemination was illustrated by actual demonstration of cancer cells in smaller blood vessels of the primary tumor and by the presence of metastases in the endocardium. The latter is a rare finding. No similar case has been found in the literature. This metastasis in the different organs showed a different histologic structure with reference to the presence or the degree of alveolar differentiation. No evidence of function, as determined by the power to fix iodin, could be found either in the primary tumor or in the metastases.

**Kottman Reaction in Thyroid Dysfunction.**—Kramer regards the Kottman method of measuring the degree of thyroid secretion as of value. The test is consistent and checks up with the basal metabolism results.

**Bed Sores Sign of Carbon Monoxid Poisoning.**—The very early appearance of bed sores in a previously comatous or still stuporous individual, in Rabinowitz' opinion, is almost pathognomonic of carbon monoxid poisoning, and is not found as early in other conditions. This sign is therefore of great value from a clinical and medicolegal viewpoint.

### American Journal of Obstetrics and Gynecology, St. Louis

**10:** 1-152 (July) 1925

*Function of Hofbauer Cells of Chorionic Villus Particularly in Relation to Acute Infection and Syphilis. J. Hofbauer, Baltimore.—p. 1.
Sympus Dipus; Case. C. E. Proshek, Minneapolis.—p. 15.
Kielland Obstetric Forceps. J. Jarcho, New York.—p. 35.
*Hemorrhage in Last Trimester of Pregnancy. H. C. Burgess, Montreal.—p. 49.
*Use of Mercurochrome in Obstetrics. H. W. Mayes, Brooklyn.—p. 61.
Four Years' Experience with Radium in Treatment of Gynecologic Conditions. J. J. Mundell, Washington, D. C.—p. 70.
*Significance of Passage of Meconium During Labor. M. Schulze, San Francisco.—p. 83.
*Fetal Heart Sounds During Labor. R. A. Bartholomew, Atlanta, Ga.—p. 89.
Danger of Cervical Erosion. P. J. Reel, Columbus, Ohio.—p. 94.
Some Debatable Features of Curettage of Uterus. G. Geilhorn, St. Louis.—p. 101.
Prolonged and Shortened Gestation Periods from Medical and Medicolegal Standpoints. L. E. McCaffrey, Ann Arbor, Mich.—p. 107.
*Bandl's Ring as Cause of Dystocia; Four Cases. W. A. Michael, Peoria, Ill.—p. 111.
Series of Deaths in Gynecologic Patients. R. A. Hurd, New York.—p. 120.

**Function of Hofbauer Cells in Syphilis.**—Hofbauer believes that the conclusion is justified that the well known cellular changes within the core of the syphilitic villi represent a response of its specific elements to spirochetes, and that

histiocytes after being transformed into polyblasts and epitheloid cells constitute the essential constituents of the new tissue, while the fibroblasts remain less numerous. In other words, the placental changes may be regarded as a cellular defense mechanism. His observation that an increase in the size of the histiocytes constitutes one of the first reactions of placental tissue to infection is in accord with the view that surface energy plays an important rôle in phagocytosis. His investigations have demonstrated a definite relation between infection and macrophage response within chorionic villi, in which the clasmatocyte plays a most important part; and as Gay and Morrison indicate, successful resistance to bacteria is constantly associated with a high clasmatocyte count. There is suggestive evidence that they may represent the bacterial macrophages *par excellence*, and that both active and passive local immunity may depend on their mobilization. In syphilitic infection Hofbauer's observations have led him to conclude that the structural modifications in the villi represent the response of the reticulum cells to spirochetes, and from this it is not a long step to suggest that the placental tissue thereby acquires a certain degree of local resistance. The acquisition of such an increased resistance to spirochetes would account for the fact that most of the investigators, have failed to detect spirochetes within the placenta; whereas they are present in the fetal organs to an extent never approached in the adult. Hofbauer's studies have also revealed the interesting fact that frequently, even at term, the presence of reticulum cells in the apparently normal placenta may indicate that syphilis had previously existed, but had been cured. Such observations are in keeping with the observation of Maximow that polyblasts return to their resting condition after the inflammatory process has subsided. Furthermore, careful examination of the mature placenta in certain cases of acute tuberculous infection shows the presence of many reticulum cells. On the other hand, the routine study of 400 consecutive normal placentae at term showed that reticulum cells were present in only 8 per cent. of the number; and on carefully going over the histories of many of the respective patients, the existence of chronic inflammatory processes in the tonsils, the sinuses, or the mastoid could be elicited.

**Cause of Postpartum Hemorrhage.**—Among sixty cases of postpartum hemorrhage reviewed by Burgess twenty-one cases were due to a partial separation of the placenta, thirty-eight to atony of the uterus and one to laceration of the birth canal. The cases occurred in thirty-eight primiparas and one multipara, with the loss of one mother. The manual removal of the placenta for other purposes than bleeding was necessary in twenty-four cases, and with no maternal deaths.

**Use of Mercurochrome in Obstetrics.**—A 4 per cent. solution of mercurochrome Mayes has found to be a valuable, non-irritating solution for sterilizing the birth canal before delivery. A preliminary study of its use over a period of eight months shows fewer days of morbidity than when iodin is used. Mercurochrome is particularly adapted for induction of labor and for all operative deliveries.

**Significance of Passage of Meconium During Labor.**—Schulze concludes from the study of 5,534 deliveries that the passage of meconium by the child during labor is in the large majority of cases entirely independent of fetal asphyxia. The passage of old meconium at the time of rupture of the membranes is of no prognostic value as to the later development of asphyxia. The cause of the passage of meconium in cases without asphyxia cannot definitely be stated, but is apparently independent of the maternal condition, or of drugs administered to the mother. A strikingly high proportion of overlarge children pass meconium, in most cases without serious significance. Fresh meconium, appearing with rupture of the membranes or later in labor, may or may not be associated with asphyxia. In cases associated with asphyxia, changes in the fetal heart are invariably present, and the latter should, therefore, be the sole guide as to the necessity for operative interference. Meconium appearing after other signs of fetal distress is frequently a sign of the onset of very deep asphyxia and the child may perish even though delivery be accomplished very rapidly.

**Fetal Heart Sounds During Labor.**—Analysis made by Bartholomew of 200 consecutive obstetric cases on the basis of the fetal heart rate during labor, showed that as the heart rate was found to be slowed from a normal rate of 120 or above, to 100, or further slowed to a rate persisting below 100, there was an increasing proportion of babies showing partial asphyxia at birth and an increasing incidence of intranatal and postnatal deaths from asphyxia. The use of forceps to deliver babies showing evidence of impending asphyxia did not increase the incidence of partial asphyxia at birth or cause fetal mortality after birth, probably from the fact that in the majority of these cases the head was already on the perineum or partly crowned and could be delivered with comparative ease.

**Bandl's Ring as Cause of Dystocia.**—White's conception of Bandl's contraction ring is wrong, in Michael's opinion. Adoption of the terms, "persistent retraction ring of Bandl" and "tonic contraction ring of Bandl," is suggested; the former applying to cases in which in addition to the ring, general uterine retraction is present; while in the latter, Bandl's ring alone exhibits contraction. The view of Dickinson that the two conditions may represent separate stages of the same process is not improbable.

## American Journal of Ophthalmology, Chicago

**8:** 601-680 (Aug.) 1925

Anatomy of Inversion and Recession of Iris. A. Fuchs, Vienna, Austria.—p. 601.
Antipneumococcic Properties of Ethylhydrocuprein Hydrochlorid (Optochin) in Vivo, Kansas City, Mo.—p. 609.
Orbital Abscess in Infant; Evacuation Through Fistulous Orifice in Bulbar Conjunctive. W. C. Posey, Philadelphia.—p. 612.
Ocular Manifestations in Serum Sickness. A. L. Brown, Cincinnati.—p. 614.
Treatment of Phlyctenular Inflammations of Eye. S. Funaishi, Mukden, Manchuria.—p. 618.
Blind Spot for Achromatic and Chromatic Stimuli. C. E. Ferree, G. Rrand and H. A. Wentworth, Bryn Mawr, Pa.—p. 620.
Ocular Complications of Chorea. H. M. Langdon, Philadelphia.—p. 626.
Siderosis Bulbi. S. B. Muncaster, Washington, D. C.—p. 630.
Unilateral Nystagmus. L. Post, St. Louis.—p. 632.
Crampton Accommodation Rod. F. H. Adler, Philadelphia.—p. 634.
Injuries to Crystalline Lens. W. A. Huber, Tulsa, Okla.—p. 635.
Primary Unilateral Diphtheritic Conjunctivitis. H. D. Fallows, Mason City, Iowa.
Case of Neuro-Epithelioma. J. J. Horton, Eagle Pass, Texas.—p. 637.
First Book Printed on Diseases of Eye. B. Chance, Philadelphia.—p. 638.

## American Journal of Physiology, Baltimore

**43:** 275-504 (July 1) 1925

*Relation of Tryptophan to Thyroid Activity in White Rat. Hsi-Chun Chang, Chicago.—p. 275.
*Tryptophan and Thyroid Function. A. R. Abel, R. W. Backus, H. Bourquin and R. W. Gerard, Vermilion, S. D.—p. 287.
Effect of Temperature on Tonus of Skeletal Muscle. F. E. Emery, Urbana, Ill.—p. 296.
Physiology of Gastric Secretion. VII. Elimination of Dyes by Gastric Muscosa. A. B. Dawson and A. C. Ivy, Chicago.—p. 304.
Heat Regulation and Water Exchange. VII. Evidence That Cold Anhydremia is Due to Loss of Fluid from Blood Stream. H. G. Barbour and W. F. Hamilton, Louisville.—p. 315.
Id. VIII. Fate of Fluid Leaving Blood in Cold Anhydremia. W. E. Hamilton and H. G. Barbour, Louisville.—p. 321.
Influence of Relaxation on Knee Jerk. E. Jacobson and A. J. Carlson, Chicago.—p. 324.
Visceromotor Reflexes. IV. F. R. Miller and R. A. Waud, London, Can.—p. 329.
*Fat Soluble Vitamins. XXV. Antirachitic Action of Irradiated Animals on Nonirradiated When Placed in Same Cage. E. M. Nelson and H. Steenbock, Madison, Wis.—p. 341.
Muscular Reactions of Mammalian Ventricles to Artificial Surface Stimuli. C. J. Wiggers, Cleveland.—p. 346.
Utilization of Minerals by Ewes During Period of Gestation. A. R. Winter, Wooster, Ohio.—p. 379.
*Carbohydrate Studies. I. Relative Sweetness of Pure Sugars. A. Biester, M. Weigley Wood and C. S. Wahlin, Minneapolis.—p. 387.
Id. II. Relative Sweetness of Invert Sugar. J. J. Willaman, C. S. Wahlin and A. Biester, Minneapolis.—p. 397
Nature of Surface of Red Blood Cell and Mechanisms of Suspension of Stability. J. Oliver and L. Barnard, San Francisco.—p. 401.
*Rate of Action of Insulin in Artificially Cooled Mammals. G. J. Cassidy, S. Dworkin and W. H. Finney, Montreal.—p. 413.
*Some Physiologic Effects of Hot Air Baths. C. G. Benedict, F. G. Benedict and E. F. Du Bois, New York.—p. 429.
*Basal Metabolism of Some Orientals. G. MacLeod, E. E. Crofts and F. G. Benedict, New York.—p. 449.
Relation Between Secretory and Motor Activity in Fasting Stomach (Man). F. Hoelzel, Chicago.—p. 463.

*Action of Insulin on Blood; Cause of Hypoglycemia. L. Foshay, Cleveland.—p. 470.
Reciprocal Innervation as a Possible Local Mechanism in Frog. J. B. Stein and J. Hulgan, New York.—p. 480.
Analysis of Daily Activity of Albino Rat. J. R. Slonaker, Standford University, Calif.—p. 485.

**Relation of Tryptophan to Thyroid Activity.**—Cramer's results are partially confirmed by Chang. He cannot accept his interpretation, however, that lack of tryptophan in the diet may directly affect the thyroid by lack of material for production of the thyroid hormone. He is more inclined to believe that the body weight of the animal, i. e., the general nutritional condition, is the important factor responsible for the thyroid changes, since these appear in parallel states of malnutrition not due to lack of tryptophan.

**Tryptophan and Thyroid Activity.**—The facts presented by Abel and his associates are said to indicate that: tryptophan is essential to the normal functioning of the thyroid; a large amount of the needed tryptophan is available for the thyroid from the tissues of the body; the thyroid is able to take up tryptophan from the blood in quantities approximating its needs, even when the total amount is so small that other tissues suffer from its lack; sufficient thyroxin from an outside source induces atrophy of the thyroid. Lack of tryptophan results also in extrathyroid disturbances leading to emaciation and death.

**Antirachitic Action of Irradiated Animals.**—No evidence was obtained by Nelson and Steenbock that irradiated rats give off radiations capable of exerting an antirachitic effect on their neighbors. Additional evidence was obtained that the antirachitic action of irradiated animals placed in the same cage with nonirradiated is effected through the medium of traces of excreta consumed. It follows that an animal irradiated with ultraviolet light has constituents in its body affected in such a manner that they become antirachitically active.

**Relative Sweetness of Sugars.**—A method of comparing the sweetness of sugars has been developed by Biester, Wood and Wahlin which does not involve remembering a sweet sensation from one test to the next. By this method the minimum concentration of each sugar which is declared sweet by at least twenty experimental subjects has been established. Using the value of 100 for sucrose, the relative sweetness of lactose, raffinose, galactose, rhamnose, maltose, xylose, dextrose, sucrose and levulose has been determined. Theoretically, the monasaccharides obtained from the complete hydrolysis of raffinose, maltose, lactose and sucrose would have a greater sweetening power than a corresponding amount of unhydrolyzed carbohydrate.

**Low Body Temperature Inhibits Insulin Convulsions.**—Cassidy, Dworkin and Finney assert that lowering of the body temperature of cats and dogs to 25 C. inhibits insulin convulsions. Lowering of the blood sugar by means of insulin abolishes the shivering reflex. Administration of glucose causes its reappearance. The combined action of cold and insulin in cats and dogs produces a state simulating hibernation. Subsequent injection of glucose restores the animal to normal.

**Physiologic Effects of Hot Air Baths.**—The results of hot air experiments made by the Benedicts and Du Bois lead to the suggestion that a study of the metabolism and heart regulation of people living in the tropics would be of unusual physiologic significance.

**Basal Metabolism of Orientals.**—The standards for basal metabolism have already, by common consent, been modified for the effects of sex and age. It is now suggested by MacLeod, Crofts and Benedict that the correction for difference in sex be increased and that a racial effect in the direction of a lower metabolism be recognized with the Chinese and Japanese.

**Action of Insulin on Blood.**—Foshay says that the train of symptoms and signs that follow administration of large doses of insulin, and at least the early subjective and objective phenomena of insulin overdosage, are not associated with a hypoglycemia per se, but rather with a cytoglycopenia—a status of glucose impoverishment within the cell. This is of importance in the treatment of diabetes, especially when large doses of insulin are used. For, as Foshay shows, the whole blood sugar determination, which is commonly used as the therapeutic guide, is not a reliable index of an approaching insulin overdosage. This is particularly true of a patient in coma, when the symptoms are absent and the signs are obscured, for then another large dose of insulin, given because the last whole blood sugar was still quite high, may lead to a fatal issue. Corpuscular sugar determinations are a reliable index of the physiologic activity of insulin. They give evidence of degrees of action which are not obtained from whole blood sugar measurements.

## Archives of Surgery, Chicago

**2**: 171-328 (Aug.) 1925

*Variations in Blood Sugar in Relation to Operation on Thyroid. C. C. Lund and E. P. Richardson, Boston.—p. 171.
*Injection of Absolute Alcohol into Thyroid. H. B. Barker, Ann Arbor, Mich.—p. 180.
*Dyspnea Following Thyroid Operations. R. Colp and H. W. Louria, New York.—p. 200.
*Osteoplastic Skeletal Metastases from Carcinoma of Breast. S. Ginsburg, New York.—p. 219.
*Abnormal Arteriovenous Communications, Acquired and Congenital. IV. Treatment. M. R. Reid, Cincinnati.—p. 236.
*Secretion Antecedents and Mitochondria in Pathologic Thyroids. Theory of Mode of Secretion in Thyroid. J. A. Key, St. Louis.—p. 254.
Review of Urologic Surgery. A. J. Scholl, Los Angeles, E. S. Judd, Rochester, Minn., L. D. Keyser, Roanoke, Va., G. S. Foulds, Toronto, and J. Verbrugge, Antwerp, Belgium.—p. 304.

**Blood Sugar After Operations on Thyroid.**—The blood sugar curve before and after operations on the thyroid was determined by Lund and Richardson in twenty-nine cases. There is a rise in blood sugar after operation on hyperthyroid patients similar in every way to that occurring in other patients. No case of hypoglycemia occurred in this series. No emotional hyperglycemia occurred before operation. Conditions following operation for exophthalmic goiter may cause increased demand for glucose. Treatment should be directed to maintain the supply of glucose, bearing in mind the occurrence of hypoglycemia in the postoperative reaction reported by Holman.

**Alcohol Injections into Thyroid.**—Barker injected from 0.5 to 10 c.c. of absolute alcohol into the thyroid of eighteen dogs, and the injected glands were removed at intervals varying from fifteen minutes to two months after the injection. Gross and microscopic observations are recorded. The microscopic picture after absolute alcohol injection is similar to that produced by boiling water. Alcohol injections can be made without the inconveniences and difficulties that are unavoidable with boiling water injections. Barker concludes that the injection of absolute alcohol, in suitable quantity, in cases of thyroid disease, in which the use of boiling water has been suggested and used, is a safe and legitimate method and it is recommended as an operative procedure in thyroid surgery.

**Dyspnea Following Thyroid Operations.**—From an experimental basis, Colp and Louria assert that fatal dyspnea following thyroidectomy does not seem to be due directly to nerve injury, tracheal stenosis or both factors combined. It is more likely due to a combination of circumstances from which the possibility of cardio-respiratory collapse cannot be excluded.

**Osteoplastic Skeletal Metastases from Breast Cancer.**—Ginsburg reports a case of skeletal carcinosis from a breast carcinoma that had been removed eighteen years before. The principal involvement was present in the skull. The condition had been diagnosed as syphilitic gumma but failed to yield to antisyphilitic treatment. Finally, when the carcinomatous nature of the lesion was determined, high voltage roentgen-ray therapy was given and under this treatment the patient improved considerably. The lumbosacral region, the shoulder (glenoid cavity) and the fifth and sixth cervical vertebrae were also affected.

**Treatment of Abnormal Arteriovenous Communications.**—Reid says that, in general, extirpation of the involved vessels yield the best results in the treatment of abnormal arteriovenous communications—arteriovenous aneurysms, cirsoid aneurysms and angiomas. He prefers this procedure to all

others when an arteriovenous aneurysm has been present for any length of time; whereas, in very early cases restoration of both vessels, or of the artery when possible, may be desirable. In case of pulsating exophthalmos, the external carotid artery should be ligated and the common carotid occluded by a band. The jugular vein should also probably be ligated, though this has not generally been done. In all operations on large arteries an effort should be made to establish a normal vascular equilibrium in the part supplied by those vessels. This probably means that, when a large artery is tied, the accompanying vein should also be ligated.

**Secretion Antecedents in Pathologic Thyroids.**—Chromophil granules and chromophobe vacuoles have been demonstrated by Key in the cells of normal and pathologic thyroids. He believes that these are the secretion antecedents that were demonstrable in either toxic adenomas or exophthalmic goiters. All hyperactive glands examined contained an excess of the normal chromophobe secretion. The mitochondria were present in the living cells of all glands studied, and were increased in the cells of all hyperactive glands. The secretory antecedents do not arise directly from the mitochondria. It is suggested that mitochondria probably have some function in connection with the general metabolism of protoplasm, and are not responsible for the specific activities of the cells that contain them.

## Boston Medical and Surgical Journal

**193:** 191-240 (July 30) 1925

*Splenectomy in Thrombopenic Purpura Hemorrhagica. B. Vincent, Boston.—p. 191.
Development of Medical Diagnosis. J. H. Pratt, Boston.—p. 200.
Vaccination Against Smallpox. B. White, Boston.—p. 210.
*Skin Test for Immunity to Smallpox. S. B. Hooker, Boston.—p. 212.
Bronchial Peanuts and Their Problems. L. Richards, Boston.—p. 215.
Health Promotion Through Nutrition Work. H. A. Rosenbaum.—p. 218.
Cape Cod Health District. A. P. Goff.—p. 220.
Vulvovaginal Inflammation Due to Mercury Poisoning. H. J. Cronin, Cambridge, Mass.—p. 221.
*Unusual Case of Heat Prostration. F. S. Hopkins, Springfield, Mass. —p. 221.

**Splenectomy in Purpura Hemorrhagica.**—The end results in the five cases that have been followed by Vincent for a five year period show that the beneficial effect of splenectomy in purpura hemorrhagica is not a temporary one. None of these cases had relapsed at the end of this period. The relief from abnormal external hemorrhage is complete in every case. When last observed, from four and one half to seven years after operation, all five patients were reported to be physically fit and symptomatically well.

**Skin Test for Smallpox Immunity.**—The three types of response to vaccination are described by Hooker: (1) Vaccinia, which indicates the absence of immunity; (2) vaccinoid, which signifies partial immunity, and (3) reaction of immunity. Attention is drawn to the great importance of this third type. Public cooperation and education are indispensable; smallpox immunization must be shown to be desirable —not something to be avoided; the profession should not ask for consent, it should receive requests. In working to achieve these desiderata it is urged to speak not of vaccination and revaccination but of the test for immunity.

**Heat Prostration with Hyperpyrexia.**—In Hopkins' case the patient's rectal temperature was 110.2 F. He was packed in ice and continuous colonic irrigations with ice water were given. Within thirty minutes the recal temperature was 93 F. Rises of temperature to 105.6 F. occurred each time this treatment was stopped. The man recovered. Three other similar cases in which the temperature reached 103, 106.6 and 109 F., respectively, are mentioned.

## Journal of Biological Chemistry, Baltimore

**64:** 509-821 (July) 1925

Solubility Product of Secondary and Tertiary Calcium Phosphate Under Various Conditions. L. E. Holt, Jr., V. K. La Mer and H. B. Chown, New York.—p. 509.
Id. II. Delayed Equilibrium Between Calcium Phosphates and Its Biologic Significance. L. E. Holt, Jr., V. K. La Mer and H. B. Chown, New York.—p. 567.
Studies in Calcification. III. Quantitative Study of Equilibria Concerned with Calcification of Bone. L. E. Holt, Jr., Baltimore.—p. 579.
Jendrassik Reaction for Water-Soluble B Vitamin. N. Bezssonoff, Colombes, France.—p. 589.
Jendrassik Reaction for Vitamin B; with Reference to Work of Bezssonoff and Levine. V. E. Levine, Omaha.—p. 591.
Probable Dimensions of Moleclule and Molecular Weight of Crystalline Egg Albumin. P. L. du Noüy, New York.—p. 595.
Chemical Constituents of Camel's Urine. B. E. Read, Peking, China.—p. 615.
Oxidation of Isobarbituric Acid. New Class of Indigoids. D. Davidson and O. Baudisch, New York.—p. 619.
*Reducing Substances of Blood. A. Hiller, G. C. Linder and D. D. Van Slyke, New York.—p. 625.
*Hyperglycemia Produced by Glycerol. C. Voegtlin, J. W. Thompson and E. R. Dunn, Washington.—p. 639.
Fermentation Products of Certain Mannitol-Forming Bacteria. H. R. Stiles, W. H. Peterson and E. B. Fred, Madison, Wis.—p. 643.
Proteins of Bark of Common Locust Tree, Robinia Pseudacacia. I. Enzymes Associated with Proteins. D. B. Jones, C. E. F. Gersdorff and O. Moeller, Washington, D. C.—p. 655.
Proteins of Cottonseed. D. B. Jones and F. A. Csonka, Washington, D. C.—p. 673.
Bone Growth. II. Changes in Calcium, Magnesium and Phosphorus of Bone During Growth. F. S. Hammett, Philadelphia.—p. 685.
Id. III. Changes in Composition of Ash During Growth. F. S. Hammett, Philadelphia.—p. 693.
Animal Calorimetry; Fat Production. M. Wierzuchowski and S. M. Ling, New York.—p. 697.
*Relation of Thyroid Secretion to Specific Dynamic Action. E. J. Baumann and L. Hunt, New York.—p. 709.
Use of Quinhydrone Electrode of Hydrion Concentration Determination on Serum. G. E. Cullen and E. Biilmann, Copenhagen, Denmark. —p. 720.
Effect of $p_H$ on Oxygen Consumption of Tissues. A. E. Koehler and R. J. Reitzel, Boston.—p. 739.
Aging of Ferrous Hydroxid and Ferrous Carbonate. O. Baudisch and L. A. Welo, New York.—p. 755.
Aging of Natural Mineral Waters. O. Baudisch and L. A. Welo, New York.—p. 771.
*Phosphatid and Total Phosphorus Content of Woman's and Cow's Milk. A. F. Hess and F. D. Helman, New York.—p. 781.
Fatty Acids in Subcutaneous Fat of Man. H. C. Eckstein, Ann Arbor, Mich.—p. 797.

**Reducing Substances of Blood.**—The behavior of the reducing substances in the blood has been studied by Hiller, Linder and Van Slyke by subjecting the latter to yeast fermentation and to incubation at 38 C. under conditions that lead to complete destruction of glucose. Such treatment leaves in normal blood a residue of reducing substance, other than glucose, which shows a reducing power for ferricyanide (Hagedorn-Jensen method) and for copper (Folin-Wu method) equivalent to 0.01 to 0.03 per cent. of glucose. By inducing insulin shock the authors succeeded in two out of six rabbits in reducing the fermentable sugar to zero, without affecting the nonfermentable reducing substance. Abnormally high total reducing power was observed in the blood of four out of five cases of glomerulonephritis with high nitrogen retention. The substance causing the increased reducing power showed, when the blood was fermented or incubated, a behavior identical with that of glucose.

**Hyperglycemia Produced by Glycerol.**—Glycerol given to fasted rabbits produced a hyperglycemia of considerable extent and duration, indicating a conversion of glycerol into glucose.

**Relation of Thyroid Secretion to Dynamic Action.**—Baumann and Hunt state that complete thyroidectomy caused a gradual decrease and final disappearance of specific dynamic action after about sixty-five days. Restoration of specific dynamic action which had entirely disappeared following thyroid removal was accomplished by feeding thyroid gland. Incomplete thyroidectomy caused a decrease of specific dynamic action, which would be increased again by feeding thyroid and in some cases by feeding a small amount of potassium iodid.

**Phosphatid of Woman's and of Cow's Milk.**—A large number of samples of both woman's and cow's milk were analyzed by Hess and Helman. Those of woman's milk were divided into two groups: those from the "early period" of lactation embracing the first two days after childbrith and those from the "mature period" of later months. The results of these tests confirm, in the main, those reported by previous authors. No relation was found to exist between the fat percentage and the content of phosphatid. There was, however, a definite distinction between the amount of phosphatid in the milk of the "early period" and that in the "mature period." A large number of samples of cow's milk were analyzed for

phosphatid and total phosphorus. These analyses showed that cow's milk contains about twice as much phosphatid as human milk. The amount was higher in milk or in cream with a high percentage of fat. However, there was no parallelism between the fat and the phosphatid content. Specimens containing a considerable amount of colostrum also showed a high percentage of phosphatid. The total phosphorus of cow's milk averaged about four times as high as that of woman's milk, and was still higher in the milk of goats.

## Journal of Bone and Joint Surgery, Boston

**7:** 509-762 (July) 1925

Skin Flap Methods in Upper Extremity. A. Steindler, Iowa City.—p. 512.
*Congenital Defects of Long Bones of Lower Limb. R. Ollerenshaw, Manchester, Eng.—p. 528.
*Epicondylitis. R. M. Carter, Green Bay, Wis.—p. 553.
*Attempt to Fuse Hip Joint for Tuberculosis. B. P. Farrell, New York.—p. 563.
Accessory Scaphoid Bone. E. S. Geist, Minneapolis.—p. 570.
*Architecture and Blood Supply of Head and Neck of Femur; Importance in Pathology of Fracture of Neck. A. Kolodny, Iowa City.—p. 575.
Bifurcation Operation for Treatment of Irreducible Dislocations of Hip Joint. R. S. Reich, Cleveland.—p. 598.
*Residual Paralysis and Deformity of Anterior Poliomyelitis. J. I. Mitchell, Rochester, Minn.—p. 619.
Arthrogryposis Multiplex Congenita. P. Lewin, Chicago.—p. 630.
*Primary Tumors of Patella. W. H. Cole, St. Paul.—p. 637.
Generalized Type of Osteitis Fibrosa Cystica. E. H. Eising, New York.—p. 655.
Displacement of Semilunar Carpal Bone: Twelve Cases. J. D. Adams, Boston.—p. 665.
Fractures of Carpal Navicular Bone. K. Speed, Chicago.—p. 682.
*End Results to Illustrate Value of Fixed Traction in Treatment of Fractures of Lower Extremity. H. Winnett Orr and J. E. M. Thomson, Lincoln, Neb.—p. 696.
Paraplegia Associated with Marked Gibbus and Localized Collection of Fat at Site of Gibbus. E. Sachs, St. Louis.—p. 709.
*Simple Method for Elevating Depressed Anterior Metatarsal Arch. B. H. Kyle, Lynchburg, Va.—p. 722.
Hip Flexion Deformity and Extension Frame for Its Correction. L. D. Smith, Boston.—p. 724.
Foot Plate for Osteo-Arthritis of Great Toe. A. Krida, New York.—p. 730.

**Congenital Defects of Long Bones.**—Ollerenshaw suggests that the congenital defects of long bones have no connection at all with outside pressure, but are due to interference with growth in the limb buds during the first few weeks of fetal life.

**Epicondylitis.**—The great majority of cases of epicondylitis in which there is a complete absence of objective findings, Carter says, are best treated by prolonged rest; diathermy may be of value; a small number, especially those in which the presence of an inflamed bursa is suspected or proved, should be treated surgically.

**Treatment of Hip Joint Tuberculosis.**—The operations reported on by Farrell were, with one or two exceptions, complete failures. This is true because fixation of the joint is essential to cure. It cannot be accomplished by apparatus, and no operation has been devised as yet that will assure bony arthrodesis.

**Anatomy of Neck of Femur.**—Kolodny asserts that the architecture of the head and neck of the femur explains the exact site of the fracture line both in vertical and lateral compression in old and young. The pathognomonic position, eversion, is the result of the action of the ischiofemoral ligament combined with muscular fixation. The question of healing of fractures of the neck is entirely dominated by the difference of nutritional conditions in different types of fractures and in various ages of the patient.

**Treatment of Residual Paralysis.**—The treatment described by Mitchell, which is employed at the Mayo Clinic, consists of rest, massage, the application of heat, muscle training, and the use of splints and braces. In many cases surgical treatment of the residual deformity is of great benefit. It aids in correcting deformities, stabilizing the limb, and increasing the function of the limb.

**Tumor of Patella.**—Tumors of the patella are very rare. Cole's case makes the twenty-fifth on record and is the first benign cyst of the patella recorded. All the common tumors of bone have been found in the patella except myxoma.

**Fixed Traction Treatment of Leg Fractures.**—After an experience of almost one hundred cases treated with fixed traction without a single nonunion, with less than one inch of shortening in any case, and in most cases good anatomic as well as functional results, Orr and Thomson feel convinced that the fixed traction method has proved to be superior to any other.

**Elevating Depressed Anterior Metatarsal Arch.**—Kyle applies a lift on the sole of the shoe on a line representing the anterior metatarsal joint line of the foot. The lift is merely a triangular wedge which prolongs the sole backward and shortens the shank. When the shoe is placed on a perfectly smooth surface, the only part of it which comes in contact with the surface is the heel and apex of the lift, the sole clearing the surface at the toe about one half inch. Such a lift has been used in about thirty cases with good results in all.

## Journal of Pharmacology and Experimental Therapeutics, Baltimore

**25:** 423-495 (July) 1925

*Is Insulin an Unstable Sulphur Compound? J. J. Abel and E. M. K. Geiling, Baltimore.—p. 423.
Liberation of Absorbed Substances from Proteins. Function of Bile Salts. S. M. Rosenthal, Montreal.—p. 449.
Urinary Excretion of Tartrates Following Administration to Animals. G. E. Simpson, Montreal.—p. 459.
Pharmacologic Behavior of Malic Acid and Its Salts. F. P. Underhill and G. T. Pack, Montreal.—p. 467.

**Chemical Analysis of Insulin.**—By simple and noninjurious methods Abel and Geiling have separated from insulin-Lilly (8 and 12 rabbit units per milligram) crystalline amino-acids, protein-like fractions of varying sulphur content and low phosphorus content, and such as have a medium or relatively low sulphur content and a high phosphorus content. The active insulin can be removed completely from each of these fractions so that they no longer show a trace of the characteristic hormone. In the course of the purification the insulin rabbit unitage was raised from 8 and 12 to more than 40 in Fractions IV. Proof is furnished that when an "insulin" high unitage is boiled for a short time with tenth-normal sodium bicarbonate the resultant physiologic inactivation is always associated with an alteration in the linkage of a part, if not all, of the sulphur of the hormone. Ammonia is not liberated by this treatment. It has shown that inert fractions contain very little of this labile sulphur, and in all fractions the content of labile sulphur, more especially what the authors have called the "sodium carbonate sulphur," appears to be directly proportional to the degree of hypoglycemic activity, that is to say, the higher the amount of "sodium carbonate sulphur" present in a given preparation, the higher is its potency. Phosphorus is not a constituent of insulin.

## Maine Medical Association Journal, Augusta

**16:** 101-118 (June) 1925

Medical Social Service in Children's Hospital, Portland, Me. I. H. Dyer, Portland.—p. 114.

**16:** 119-136 (July) 1925

Significance of Pyuria and Hematuria for General Practitioner. H. Jameson, Rockland.—p. 119.
Significance of Colloidal Properties of Gelatine in Special Dietaries. T. B. Downey, Pittsburgh.—p. 126.

## New Orleans Medical and Surgical Journal

**78:** 59-116 (Aug.) 1925

Abuse of Food. J. B. Elliot, New Orleans.—p. 59.
Rheumatic, Syphilitic and Thyroid Heart. J. H. Musser, New Orleans.—p. 61.
Use of Library in Medical Authorship. M. L. Marshall, New Orleans.—p. 65.
Accessory Nasal Sinus Disease in Children. C. A. McWilliams, Gulfport, Miss.—p. 69.
Relation of Orthopedic Surgery to General Medicine. J. T. O'Ferrall, New Orleans.—p. 71.
Pneumothorax Therapy in Tuberculosis. C. H. Cocke, Asheville, N. C.—p. 76.
Secondary Tuberculous Pericarditis; Cases. W. B. Rawls, New York.—p. 81.
Tracheobronchial Diphtheria. M. P. Boebinger, New Orleans.—p. 84.

Rational Operative Procedures in Obstetrics. H. E. Miller, New Orleans.—p. 88.
Muscular Mechanism of Stomach. S. K. Simon and E. C. Samuel, New Orleans.—p. 93.
Case of Hematometra. W. C. Jones, Birmingham, Ala.—p. 95

## Ohio State Medical Journal, Columbus

21: 538-616 (Aug.) 1925

Bony Tumors of Orbit. W. L. Benedict, Rochester, Minn.—p. 557.
Two State Operation in Cancer of Pylorus. J. L. Ransohoff, Cincinnati.—p. 562.
Mental Problem; Suggestions for Its Solution. C. W. Sawyer, Marion.—p. 567.
Building a Health Supervision Scheme Into School Curriculum. A. O. Peters, Dayton.—p. 570.
Statistical Study of Bronchial Asthma. M. B. Cohen, Cleveland.—p. 572.

## Oklahoma State Medical Association Journal, Muskogee

18: 101-292 (Aug.) 1925

Acute Perforated Gastric and Duodenal Ulcers. S. E. Kernodle, Oklahoma City.—p. 101.
Difficulties in Diagnosis of Diseases of Stomach; Extragastric Causes. L. C. Williams, Pushuska.—p. 184.
Significance of Pain in Right Lower Abdomen. L. J. Starry, Oklahoma City.—p. 187.
Roentgen-Ray Diagnosis of Duodenal Ulcer. S. C. Venable, Tulsa.—p. 190.

## Public Health Journal, Toronto

16: 301-350 (July) 1925

Health Insurance. J. H. MacDermot.—p. 301.
Medical Education. C. F. Martin.—p. 310.
Geographical Aspect of Eugenics. V. Cornish.—p. 317.
Local Health Administration. J. W. S. McCullough.—p. 320.
Generalized Public Health Nursing in British Columbia. I. Jeffares.—p. 323.
Endo's Medium. N. M. Harris.—p. 326.
Classification of Medical Schools. J. C. Connell.—p. 327.
Medical Education. J. J. R. MacLeod.—p. 330.

## South Carolina Medical Association Journal, Greenville

21: 157-184 (July) 1925

Indications for Tonsillectomy in Adults. E. F. Parker, Charleston.—p. 159.
Practical Application of Blood Chemistry. G. F. Klugh, Atlanta, Ga.—p. 160.
Cancer as a State Board of Health Problem. J. A. Hayne, Columbia.—p. 161.
Embolectomy. S. O. Black, Spartanburg.—p. 164.

## Southern Medical Journal, Birmingham, Ala.

18: 563-634 (Aug.) 1925

Secretin. E. C. Prentiss, El Paso.—p. 563.
*Virulent Diphtheria Bacilli in Fowls. W. Litterer, Nashville, Tenn.—p. 577.
Psychologic Aspect of Railroad Injury. B. R. Tucker and R. F. Gayle, Richmond, Va.—p. 581.
Importance of Correct Principles and Concerted Action in Dealing with Litigious Traumatic Neurosis. T. A. Williams, Washington, D. C.—p. 584.
Old Age Problem. G. W. F. Rembert, Jackson, Miss.—p. 588.
Rural Problems in Maternity and Child Health. J. H. M. Knox, Jr., Baltimore.—p. 593.
Treatment of Cystin Stone. J. U. Reaves, Mobile.—p. 599.
Nephrolithiasis. G. R. Livermore, Memphis.—p. 603.
Prostatic Deaths. F. S. Schoonover, Fort Worth.—p. 607.
Occipito-Posterior Presentation. B. C. Hirst, Philadelphia.—p. 616.
Acute Hemorrhagic Pancreatitis Complicated by Nephritis. J. N. Fogarty and I. M. Hay, St. Augustine, Fla.—p. 617.
Industrial Eye Injuries. R. Caldwell, Little Rock, Ark.—p. 619.
Incidence of Mastoid Disease in the United States. A. Blalock, Nashville, Tenn.—p. 621.
Supply of Physicians in Southeastern States. E. R. Clark, Augusta, Ga.—p. 622.

**Virulent Diphtheria Bacilli in Fowls.**—Two hundred and fifty-six cases were investigated by Litterer in which virulent Klebs-Loeffler bacilli (acute or carrier) existed in a family which owned fowls suffering from ailments such as roup, fowl diphtheria, cholera, etc. The total number of sick fowls examined was 1,126. Out of this number there were two instances in which several fowls in each flock harbored virulent diphtheria bacilli. Culturally, tinctorially and by virulence tests, the Klebs-Loeffler bacilli isolated from the fowls were identical to the diphtheria bacilli isolated from each child in the two families owning the fowls. Successful inoculations of the virulent Klebs-Loeffler bacilli isolated from the fowls were produced in other fowls suffering with roup, and these experimental fowls were later cured by the administration of diphtheria antitoxin. Likewise, the virulent Klebs-Loeffler bacilli isolated from the two children were successfully inoculated into fowls suffering with roup and these experimental fowls were subsequently protected by diphtheria antitoxin. In one instance it was evident that fowls can transmit virulent diphtheria bacilli to the human being. Although the condition is comparatively rare, it opens up a new field for the means of dissemination of virulent Kleb-Loeffler bacilli among human beings.

## Southwestern Medicine, Phoenix, Ariz.

9: 255-292 (July) 1925

Current Progress and Trend of Preventive Medicine. D. B. Williams, Sante Fe, N. M.—p. 255.
Renal Function Estimation in General Practice. E. A. Duncan, El Paso, Texas.—p. 256.
Method to Minimize Negative Phase in Vaccine Therapy. O. H. Brown, Phoenix, Ariz.—p. 260.
Knee Joint. E. H. Brown, Phoenix, Ariz.—p. 263.
Static Deformities of Feet. R. D. Kennedy, Globe, Ariz.—p. 266.
Constipation. J. A. Smith, Roswell, N. M.—p. 268.
Sinus Infections. W. E. Vandevere, El Paso, Texas.—p. 271.
Urologic Pilgrimage. C. S. Vivian, Phoeniz, Ariz.—p. 272.

## Texas State Journal of Medicine, Fort Worth

21: 161-216 (July) 1925

Tuberculosis of Eye. W. C. Finnoff, Denver.—p. 173.
Anatomic Explanation of Some of Sphenopalatine Ganglion Phenomena. C. C. Cody, Houston.—p. 178.
*Fetal Protein Intoxication Fundamental Factor in Vomiting of Pregnancy. W. S. Horn, Fort Worth.—p. 180.
Use of Acidified Cow's Milk in Artificial Feeding of Infants. J. F. Perkins, Dallas.—p. 185.
Experience with Potter Version. H. W. Johnson, Houston.—p. 190.
Local Anesthesia (Splanchnic) in Abdominal and Pelvic Surgery. P. R. Denman, Houston.—p. 193.
Adequate Treatment for Hereditary Syphilis. F. S. Schoonover, Jr. Fort Worth.—p. 199.
Cancer Treatment; Regional Type and Period Problem. H. Crouse, El Paso.—p. 202.

**Fetal Protein Intoxication in Vomiting of Pregnancy.**—The Spanish obstetrician Udaeta believes that the toxemias of pregnancy, particularly vomiting, are the result of intoxication caused by the products of gestation. It occurred to Horn that if Udaeta's observations were correct, it would be possible to establish the cause of the vomiting of pregnancy based on accurate observations checked against the blood types occurring in mother, father and child. His first investigation was made on a woman who was extremely toxic, having retained nothing by mouth for ten days. The vomiting had begun at the fourth week of pregnancy and had continued uninterruptedly, regardless of efficient treatment. This patient's blood was matched against her husband's and a double crossed agglutination occurred. Accordingly, a subcutaneous injection of 1 c.c. of the husband's whole blood was given; twenty-four hours later, 5 c.c. was injected, and two additional injections of 5 c.c. each were made at twenty-four hour intervals. At the end of forty-eight hours the patient was feeling fine, had no nausea, and was eating and drinking as freely as she desired. Horn used glucose intravenously to combat the extreme acidosis, but no further treatment was given and the symptoms did not recur. A perfectly healthy child was born two months later. The mother's blood was found to be in Group III, the father's in Group II, and the child's in Group II. Horn is convinced that fetal protein intoxication must have some relation as a causative factor to the vomiting of pregnancy. Since then he has treated seven other cases with quite convincing results. He emphasizes the point that the selection of the blood type to be used in immunizing the mother is important. In the majority of cases the father's blood will probably suffice. The technic he employes is to withdraw 30 c.c. of the husband's blood into 10 c.c. of 10 per cent. sodium citrate solution and keep it at icebox temperature for preservation. For immunization or desensitization he has given injections of this citrated whole blood at daily intervals, beginning with 2 c.c. each day up to 10 c.c. at the fifth and last injection. Subsequent injections in two cases were necessary. The most satisfactory results are obtained by intramuscular rather than subcutaneous injections.

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

### Brain, London

**48:** 153-277 (June) 1925

*Amyotrophic Meningomyelitis. Spinal Progressive Muscular Atrophy of Syphilitic Origin. J. P. Martin.—p. 153.
*Histology of Juvenile Amaurotic Idiocy. J. G. Greenfield and G. Holmes.—p. 183.
*Pathogenesis of Subacute Combined Degeneration of Spinal Cord; Connection with Pernicious Anemia, Achlorhydria and Intestinal Infection. A. F. Hurst.—p. 218.
Sensory Jacksonian Fits. O. Sittig.—p. 233.
Physiologic Studies on Patellar Reflex. I. Patellometer. J. R. Pereira.—p. 255.
Hemangeioma of Pia Mater Causing Compression Paraplegia; Five Cases. P. Sargent.—p. 259.

**Syphilis as Cause of Spinal Progressive Muscular Atrophy.**—In Martin's experience syphilis is the commonest cause of chronic spinal progressive muscular atrophy of the atonic type. Two such cases have been examined pathologically; they both showed: (*a*) a leptomeningitis; (*b*) marginal degeneration of the white matter of the cord; (*c*) very severe destruction of the cells of the gray matter of the cervical enlargement; (*d*) arteritis of the meningeal and intraspinal arteries and perivascular infiltration along the vessels. The first case presented in addition: (*e*) a diffuse degeneration of the anterolateral white matter of the cord; (*f*) ependymitis in the fourth ventricle and iter of Sylvius; and (*g*) granulomatous outgrowths on the ependymal and meningeal surfaces of the medulla oblongata. These changes are regarded as the result of a syphilitic inflammation and the process may be designated by the term "amyotrophic meningomyelitis." The pathologic findings, and also certain of the clinical and therapeutic characters, indicate that the disease process begins in the spinal leptomeninges, and that the destructive influence affects the cord mainly from the surface inward; the lymph channels probably aid its penetration to the central parts of the cord. From an analysis of sixty cases the main clinical features are given as follows: atrophy of the "atonic" type beginning (*a*) in the small muscles of the hands, (*b*) in the shoulder muscles or (*c*) in the muscles on the outer side of the leg; it may be unilateral or bilateral; its onset is not infrequently preceded by pain; spasticity of the lower limbs may come on; bulbar symptoms are uncommon; the vibration sense may be impaired; there may be difficulties of sphincter control. Argyll Robertson pupils were only present in 28.5 per cent. of these cases. The Wassermann reaction is negative in the blood in one third of the cases; there is not sure case in this series in which it was negative in the cerebrospinal fluid before any antisyphilitic treatment had been given. In four cases, personally observed, the progress of the disease has been arrested by antisyphilitic treatment; similar results have been recorded by others.

**Histology of Juvenile Amaurotic Idiocy.**—The two cases described by Greenfield and Holmes belonged to the same generation of a family, the other members of which were healthy as far as could be ascertained. The parents came of pure English stock in which no intermarriage with Jews had occurred. A maternal uncle was mentally defective, due, it is stated, to instrumental delivery at birth, but though unable to read he has earned his own living and served in the army during the late war. The other collaterals of both parents and their descendants are all healthy. The essential lesion of the disease is a special form of degeneration of the cell body, associated with the deposition in it of a peculiar form of lipoid. In many instances the axons undergo a secondary degeneration, but in other systems the axonal processes remain intact, though the cells that give them origin are severely affected. The finer histologic features, as well as the severity of the disease, varied in different systems of neurons, but all belonged to the same type.

**Condition of Alimentary Canal in Addison's Anemia.**—Hurst has investigated the condition of the alimentary canal in twenty-six cases of Addison's anemia, many of which had also symptoms or signs of organic nervous disease. He emphasizes the fact that these conditions are due to the association of oral sepsis with the absence of free hydrochloric acid throughout digestion, and the consequent intestinal infection and toxemia. The signs and symptoms of nervous disease, which are observed sooner or later in about 80 per cent. of cases of Addison's anemia, are due to subacute combined degeneration of the cord, and the anemia, which develops in almost all cases of the spinal disease before death occurs is of the addisonian type, hence the division between the two associated diseases is quite artificial. Achlorhydria was present in all of the thirty-six cases of Addison's anemia examined by means of a fractional test meal. Hurst believes that the familial occurrence of achylia gastrica must be the explanation of the familial occurrence of Addison's anemia. Six out of his series of thirty-six cases of Addison's anemia had one or more relations who died of the disease. Eight cases are recorded in which achylia gastrica was discovered from one to thirteen years before the onset of symptoms of anemia. Hurst has seen two cases, in which Addison's anemia was associated with achlorhydria, which was apparently the result of chronic alcoholic gastritis, as cirrhosis of the liver was present. In the majority of cases of Addison's anemia and subacute combined degeneration of the cord obvious pyorrhea alveolaris is present. In 77.5 per cent. of twenty-eight cases of Addison's anemia and twelve of subacute combined degeneration of the cord, *Streptococcus longus* was found, compared with 20 per cent. of 145 cotrols. In many of the latter they were scanty and slow growing. In four of the seven cases of Addison's anemia, and in one of the two cases of subacute combined degeneration of the cord in which streptococci were isolated from the duodenal contents, large doses of hydrochloric acid had previously been given.

### British Journal of Dermatology and Syphilis, London

**37:** 301-346 (July) 1925

Case of Relapsing Nonsuppurative Nodular Panniculitis, Showing Phagocytosis of Subcutaneous Fat Cells by Macrophages. F. P. Weber.—p. 301.
Scabies; Paleontology of Acarus. G. Pernet.—p. 312.
*Case of Lupus Disseminatus (Postexanthematic Miliary Tuberculosis Cutis). H. Sundt.—p. 316.

**Lupus Disseminatus.**—Disseminated lupus with its miliary lesions, Sundt says, is a type of postexanthematic tuberculid in children, and has a practical significance in that it gives warning of a tuberculous infection having taken place. In his case it was the first manifestation of the infection which two or three years later, probably after a trauma, was followed by tuberculous spondylitis. The skin lesion disappeared within a few weeks, after having been there for three years, undoubtedly due to the sun treatment given, which, by also pigmenting the cicatrices left, made these disappear or made them far less prominent. Sundt thinks that lupus disseminatus is in its slighter forms considerably more frequent than is generally supposed. The small, white, round cicatrices, which are frequently seen by scrofulotuberculous patients, are probably the remains of an old, scarcely noticed tuberculous exanthem, perhaps most often of the pauplonecrotic form, but no doubt sometimes of disseminated lupus of the type here described.

### British Journal of Radiology, London

**30:** 241-282 (July) 1925

Radiation Biology of Carcinoma. Opitz.—p. 252.
Case of Complete Obliteration of Heart Shadow. W. F. Thompson.—p. 264.
*Prevention of Sickness After Roentgen-Ray Treatment. E. H. Zweifel.—p. 267.
Treatment of Tumors of Skin. A. Burrows.—p. 269.

**Prevention of Sickness After Roentgen-Ray Treatment.**—Sickness after roentgen-ray treatment is avoided by Zweifel by the use of lead boxes encasing the tubes, so constructed that no rays can escape to the patient except for the beam directed on the tumor, which passes, first, through the zinc or copper filter. Zweifel prefers the box made by Siemens. This box has been in use for eighteen months, during which 200 treatments of from four to six hours or more duration have been given according to the principles of the Erlangen school to patients suffering from fibroids or cancer, and not a single case of sickness has occurred. Cases of tumor of the liver and cancer of the stomach have also been treated.

## British Medical Journal, London

2: 153-184 (July 25) 1925

Evolution of a Health Resort (Bath). F. G. Thomson.—p. 153.
Some Investigations of Sensation. J. S. B. Stopford.—p. 157.
Nervous Child as Seen in Medical Practice. B. Myers.—p. 158.
*Incidence of Arteriosclerosis in Various Arteries. D. R. Dow.—p. 162.

**Arteries Affected by Arteriosclerosis.**—An investigation was undertaken by Dow to ascertain which vessels in the body were most frequently and most extensively affected with arterial degeneration. The material examined was obtained from the dissecting rooms and consisted of eight bodies in an excellent state of preservation. The abdominal aorta, common iliac, femoral and popliteal arteries were more frequently and more extensively affected than any other vessels. The internal iliac arteries were more commonly involved than the external iliac arteries. It was a striking fact that the mesenteric arteries were seldom the seat of degeneration. In one instance only was the inferior mesenteric artery affected. The parietal vessels in the pelvis, especially the gluteal and pudendal arteries, were affected to a very marked degree. They offered a comparison with the visceral branches in the pelvis, which were seldom involved. The portion of the internal carotid artery which lay in the cavernous sinus, and the part involving its bifurcation into anterior and middle cerebral arteries, frequently presented arterial degeneration of a very advanced degree. The vessel wall in this region was usually sacculated. The cervical portion of the internal carotid was subject to a very small amount of degeneration. The vessels of the lower limb were more frequently and more extensively affected with arteriosclerosis than those of the upper limb. In one specimen only was the axillary artery markedly involved, and only in one brachial artery was a small patch of degeneration present. A very different condition was found in arteries of approximately the same caliber in the lower limb, where the femoral and popliteal arteries were extensively affected. The radial arteries (when involved) showed degenerative changes just above the wrist joint, but were not affected higher up. The tricuspid valve and pulmonary artery were not implicated in any of the specimens examined. They offer a striking comparison with the mitral valve and thoracic aorta, both of which were found to be a frequent site of degeneration.

## Glasgow Medical Journal

22: 1-64 (July) 1925

*End-Results of Pleurisy with Effusion in Children. S. Graham.—p. 1.
Talipes. W. Rankin.—p. 8.
*Chronic Catarrhal Colitis. D. Cameron.—p. 16.

**End-Results of Pleurisy with Effusion in Children.**—Of fifty-six cases of pleurisy with effusion in children reported by Graham the subsequent history was obtained in thirty-nine. Thirty-two children appeared to have recovered completely. In the remaining seven cases (17.9 per cent. of those traced) subsequent tuberculous lesions developed, and in two of these they proved fatal, while in one other the prognosis is extremely grave. In those cases in which a subsequent lesion did develop it became manifest within one year after recovery from the initial illness. The most common evidence of a previously existing pleurisy with effusion in a child is a flattening of the affected side. This was detected in 68 per cent. of the cases, but gives rise to no symptoms, and tends to disappear as adult life is reached. It would seem unlikely that in pleurisy with effusion in children there is a primary lesion in the lung.

**Chronic Catarrhal Colitis.**—In Cameron's opinion chronic catarrhal colitis occurs more often than has been stated. These cases give a history of abdominal pain, flatulence, irregularity of the bowels and mucus in the stools, lassitude, headaches and inability to concentrate. They are of sallow complexion and poor muscle tone. The heart is irritable. They present tender areas on abdominal palpation.

## International Journal of Psycho-Analysis, London

6: 247-365 (July) 1925

Influence of Oral Erotism on Character Formation. K. Abraham.—p. 247.
Psychoses: Their Mechanisms and Accessibility to Influence. R. Wälder.—p. 259.
Hindu-Muslim Unity. O. Berkeley-Hill.—p. 282.
Peculiar Custom Observed on Island of Marken, Holland. H. C. Jelgersma.—p. 288.
Sensation and Narcissism. R. O. Kapp.—p. 292.
Case of Kleptomania in Girl Ten Years Old. M. Chadwick.—p. 300.
Psychology of Effect Produced by Morphin. L. Lévy.—p. 313.

## Journal of State Medicine, London

33: 303-350 (July) 1925

Some Anomalies of Local Public Health Administration. Sir A. Newsholme.—p. 329.

## Lancet, London

2: 163-212 (July 25) 1925

Evolution of Health Resort. F. G. Thomson.—p. 163.
*Disorders of Motility and of Muscle Tone. Special Reference to Corpus Striatum. III. S. A. K. Wilson.—p. 169.
Hereditary Deforming Dyschondroplasia. A. G. Ord.—p. 178.

**Disorders of Motility.**—Wilson says: We have noted the close resemblance of choreic movements to "voluntary" movements, the existence of "little signs" pointing to disturbance of corticospinal function, the occurrence both in "voluntary" and in "involuntary" choreic action of indentical clinical characteristics; we have seen the connection between "paralytic" and hyperkinetic chorea, and realized how these are but differing aspects of derangement of the same efferent mechanism; while the occurrence in confluent chorea (as I call it) of motor incoordination which clearly demonstrates the abrogation of the law of reciprocal innervation by disease has also been exemplified. The argument from these clinical data which Wilson offers is as follows: Complete paralysis, as in, say, anterior poliomyelitis, is never under any circumstances associated with the appearance of involuntary movements in the affected limbs; similarly, in the case of a recent, complete, flaccid hemiplegia no involuntary movement (posthemiplegic chorea or athetosis) makes its appearance until there is clinical evidence of some return of power in the power in the paralyzed limb or limbs. Even in cases of severe chorea the corticospinal is never "paralyzed" but where "paralytic chorea," so-called, is noted, the spontaneous movements are at a minimum. It is difficult to resist the conclusion that for the appearance of choreiform disorder relative integrity of the pyramidal or corticospinal tracts is essential. The corollary is, that this integrity is not absolute, in view of (1) the presence of the choreic phenomena themselves and (2) the above mentioned signs or indications of slight concomitant corticospinal dysfunction. Wilson emphasizes that the derangement constituting chorea need not have its actual origin on the motor (effector) side of cerebral (cortical) mechanisms.

## National Medical Journal of China, Shanghai

11: 151-218 (June) 1925

Gonorrheal Ophthalmia. C. H. Chou.—p. 151.
*Treatment of Schistosoma Japonica. J. T. Tai.—p. 158.
*Left Inguinal Hernia with Cecum as Part of Its Contents; Case. E. Y. Kau.—p. 165.
Case of Typhus Fever. K. H. Li.—p. 169.
Importance of Venereal Clinics. St. Luke's Genito-Urinary Clinic, Shanghai. M. L. Tsang.—p. 172.

**Treatment of Schistosoma Japonica.**—Tai reports his results in fifty-two cases. Sodium antimony tartrate was of definite value in the treatment of schistosomiasis; while colloidal antimony was less efficient. Emetin treatment is definitely indicated whenever there is any difficulty in intravenous injection; especially in children. Prolonged use of antimony preparations has always some potential danger, especially in advanced cases; while emetin treatment has not shown any bad effect so far. Practically none of the very advanced cases were cured by any sort of treatment, and very few were improved. No cure can be promised unless the patient can stay for treatment for at least one month's period. As an indication that all parasites have been killed, one week's daily negative fecal examinations is the minimum, and two weeks continuous watch is preferable.

**Hernia of Cecum.**—The case cited by Kau was a congenital hernia of the funicular type. The presence of the cecum in the hernia is explained by the existence of an ascending mesocolon with elongation of the mesocecum, which permitted the cecum to become a content of a hernia of the left oblique, inguinal variety.

## Annales de l'Institut Pasteur, Paris

**39:** 387-483 (May) 1925

*Carbon Dioxid and Diphtheria Bacillus. G. Abt.—p. 387.
Anaerobic Streptococci. A. R. Prévot.—p. 417.
*Cattle Plague Virus in Green Hides. H. Schein and M. Jacotot.—p. 448.
*Treatment of Parasitic Fungus Affection in Plants. C. Picado.—p. 462.
Action of Certain Chemicals on the Tubercle Bacillus. Karwacki and Biernacki.—p. 476.

**Source of Energy for the Diphtheria Bacillus.**—Abt's research demonstrated that 1.1 gm. of desiccated diphtheria bacilli develop 4 gm. of carbon dioxid in 1,100 c.c. of Martin's broth. About 80 per cent. of the carbon dioxid is produced in ten or twelve days; 95 per cent. in twenty days. The maximal activity of the bacillus seems to occur the first two days, with a slightly alkaline reaction of the culture. About one third of the carbon dioxid is formed from the acetic, butyric or lactic acids present in the broth; the other two thirds from the protein substances of the medium. He suggests that the diphtheria bacillus may use the glutamic acid for production of the carbon dioxid. Over 2 liters of oxygen are utilized for one culture unit.

**Persistence of Plague Virus in Green Hides.**—Referring to the prohibited import of green hides from countries suspected of cattle plague, Schein and Jacotot assert that green hides exposed to twenty days' salting and a thorough brushing may be considered as free from the parasites of cattle plague.

**Toxin-Antitoxin Mixtures in Treatment of Plants.**—Picado added 0.5 per cent. of sodium chlorid (toxin) and 0.24 or 0.6 per cent. of calcium hydrate (antitoxin) to the soil where beans were growing. This neutralized mixture did not affect the plants, but seemed to prevent or decrease the development of parasitic fungi on the plants, especially the fusarium. A mixture of mercurous chlorid (toxin) at 0.02 per cent. with sulphur (antitoxin) at 0.008 per cent. proved a "toxin-antitoxin" combination not injuring the plant, but toxic for the parasite, and thus checking the infection.

## Annales de Médecine, Paris

**17:** 561-648 (June) 1925

*Postoperative Parathyroprival Tetany. P. Sainton et al.—p. 561.
Tuberculosis Plus Gas Gangrene Infection. Caussade et al.—p. 586.
*Heredity of the Soil in Tuberculosis. Debré and Lelong.—p. 601.
Vegetative System and Gland Disturbance in Chinese. Porak.—p. 624.
Thirty-One Cases of Endocarditis Lenta. A. Calugareanu.—p. 633.

**Case of Parathyroprival Tetany Consecutive to Thyroidectomy.**—The case, observed by Sainton and his co-workers in a woman, aged 31, presented a clinical picture and course like that from experimental removal of the parathyroid glands. The acute phase of the disease started three days after the operation, and was shortly followed by trophic disturbances through the second, latent phase (fall of the hair, nails and teeth, bilateral cataract). The intermittent paroxysms did not seem to be connected with the menses; they occurred during the day, and were most frequent in winter and spring, especially in the latter season. The blood showed an exaggerated alkalinity and a decrease in ionized calcium and glucose. The disturbed acid-base balance may, as in epilepsy, induce or contribute to induce the attack. The different character of the paroxysms in the two affections may possibly be due to the involvement of different toxins. A two months' treatment with calcium chlorid (8 gm. daily) combined with the parathyroid extract brought about notable improvement. The same results were obtained with ultraviolet rays, applied in eleven exposures, with a total of thirty minutes. The effect however was transient, but for a few days it surpassed that of any other measures. They detail the findings as to neuromuscular chronaxia. The tetany was still evident when last seen, forty-three months after the thyroidectomy, but the hair and nails were normal. The cataracts persisted.

**Heredity in Tuberculosis.**—Discussing the arguments offered for the inheritance of the predisposed soil for the infection, Debré and Lelong assert that only normal physical and mental properties are transmitted from the ovum to the developing fetus (cellular heredity), as, for instance, the color of the hair, skin or iris; also constitution and temper. A pathologic inheritance is exceptional, and manifests itself in certain deformities, obesity, hemophilia, constitutional status, rather than diseases. The passage of tuberculous antibodies through the placenta may occur without the passage of pathogenic elements from the mother to the fetus. It is conceivable that the maternal antibodies, remaining in the blood of the new-born for several weeks, may influence the appearance of a deformity, as well as exert an action on the predisposition or immunity of the infant.

## Bulletin de l'Académie de Médecine, Paris

**94:** 805-832 (July 21) 1925

Recrudescence of Alcoholism in France. C. Achard.—p. 807.
The Anopheles of Corsica. E. Brumpt.—p. 811.
*Encephalitis Consecutive to Vaccination. Bastiaanse.—p. 815.
*Postvaccinal Encephalitis. A. Netter.—p. 821.
"Encephalitis Following Vaccination." L. Camus.—p. 826.
*Treatment of Cracked Nipples. P. Chatin.—p. 828.

**Epidemic Encephalitis Consecutive to Smallpox Vaccination.**—Bastiaanse and his co-workers had opportunity to study several of the thirty-four cases of encephalitis which developed among 240,000 young children vaccinated in the last year and a half, at a time when epidemic encephalitis was prevalent. The encephalitis symptoms appeared from nine to fifteen days after the vaccination. No sequelae were noted in the 58.8 per cent. surviving cases out of the total thirty-four. They believe that vaccination made during an epidemic of encephalitis may rouse to active manifestations an encephalitis existing previously in a latent stage. It is also possible, they say, that some still unknown virus may be responsible for the encephalitis under these special conditions.

**Smallpox Vaccination and Encephalitis.**—Analyzing Bastiaanse's report, Netter advises to refrain systematically from vaccination during an epidemic of encephalitis. Outside of such epidemic conditions, smallpox vaccination should be used without restrictions.

**Ultraviolet Rays in Treatment of Fissures of the Nipples.**—Chatin treated with the quartz mercury lamp twelve women for slight fissures of the nipples. The irradiations were made every second day, starting with two minutes; the exposures were gradually prolonged by two minutes, reaching finally ten minutes. The pain was sometimes relieved after one exposure; the healing of the cracks was rapid, and recovery was complete in one or two weeks. He suggests that pigmentation of the areola may be a defensive process.

## Bulletins de la Société Médicale des Hôpitaux, Paris

**49:** 1057-1088 (July 10) 1925

Metastatic Extradural Lymphosarcoma. Guillain et al.—p. 1057.
Dilatation of Bronchus with Displacement of Trachea. Coyon et al.—p. 1061.
*"Dry" Chlorid Retention. L. Blum and van Caulaert.—p. 1065.
*Rôle of Sodium in Dropsy. L. Blum and van Caulaert.—p. 1067.
Case of Meningo-Ependymitis. Vialard and Darleguy.—p. 1073.
*Prophylaxis of Gastro-Enteritis. Ribadeau-Dumas and Fouet.—p. 1077.
*Rat-Bite Fever and Syphilis. Apert et al.—p. 1080.
Hodgkin's Disease in Man of 54. Lévy et al.—p. 1084.

**"Dry" Retention of Chlorids Associated with Urinary Maladies.**—Blum and van Caulaert's experience has shown that retention of chlorids without edema is frequent in cases of urine intoxication, presenting purulent urine, polyuria or pollakiuria. In four patients, aged from 48 to 60, the characteristic blood concentration with its excess of chlorids and deficit of sodium was manifest. A salt-free diet benefited these patients even more than it benefited those with chronic nephritis. The feeling of thirst, dryness in the mouth and digestive disturbances, as well as the polyuria, subsided, while the general condition improved considerably. The dry retention of chlorids thus seems to be an important and a curable element in the clinical picture of urosepsis.

**Sodium Retention with Tendency to Edema in Epithelial Nephritis.**—Analyzing their two cases, Blum and van Caulaert say that there may be simultaneous retention of sodium and of chlorin, but the characteristic feature is the higher ratio of sodium to the chlorin. When the sodium is in excess, there is dilution of the blood. This confirms the rôle of sodium in dropsy.

**Prophylaxis of Acute Gastro-Enteritis in Infants.**—Ribadeau-Dumas and Fouet consider the most effective measure in prophylaxis of summer diarrhea of infants the use of canned or desiccated milk instead of boiled fresh milk.

**Three Cases of Rat-Bite Fever at Paris.**—The aspect of the patients and the course of the disease confirmed the close clinical analogy between this infection and syphilis. The incubation period, followed by fever with swelling of the wound, the inflamed glands and skin eruption, are alike in both. The eruption appeared somewhat late (probably due to sensitization of the organism), and was located on the upper part of the body. An adequate arsenical treatment brought about recovery, while bismuth treatment proved futile. The young of infected guinea-pigs were dystrophic.

## Gynécologie et Obstétrique, Paris

**11:** 401-476 (June) 1925

*Improved Subcutaneous Symphyseotomy. E. Zarate.—p. 401.
Subcutaneous Symphyseotomy in Cuba. J. Ortiz-Perez.—p. 411.
*"Eclampsism." S. A. Sélitzky.—p. 428.
Present Status of Treatment of Cancer of the Uterus. Revel.—p. 432.
*Pregnancy Transverse Myelitis. Gueissaz.—p. 446.
Total Colpectomy for Genital Prolapse. H. Hartmann.—p. 452.

**Improved Subcutaneous Symphyseotomy.**—Zarate uses merely a bistoury with a 5 cm. cutting edge. He introduces it perpendicularly, 0.5 cm. below the margin of the articulation, and then slants it to sever the entire fibrocartilage and the anterior ligament. The patient's legs are held in forced abduction, flexed on the abdomen. The ends of the bones are kept from spreading apart by the ligament of Henle below and by the crossed fibers of the great oblique muscle above. It is dangerous to cut the lower ligament, but the upper crossed fibers can be severed with impunity. They become more horizontal as the pubis separates. Without turning the bistoury, these fibers can be clipped apart. The symphysis then gapes, possibly for 3.5 cm. in the anterior portion, and exaggerating the abduction may bring it to three finger-breadths. Pressure with the fingers in the vagina on the interpubic gap, and with gauze on the minute incision made by the entrance of the bistoury arrests the bleeding. The arch has to be completely divided before the symphysis can spread apart. The extreme abduction insures this by tearing the lower ligament. The root of the clitoris, etc., separates from the bone and flees before the bistoury; the bladder slides backward, and the urethra is protected by the ligament of Henle. With this technic he has never had any mishaps. He describes experiments on seven still warm cadavers which confirmed the special fibers that interfere to prevent the spreading of the severed articulation.

**"Eclampsism."**—Sélitzky applies this term to the set of symptoms warning of impending eclampsia. It is often possible to avert it by bed rest, purgation, milk diet, and moist heat to the lumbar regions, supervising the urine and blood pressure. The use of sedatives should be restricted. Among the subjective phenomena are muscular jerking, dyspnea, pruritus, impairment of vision and hearing, asthenia and drowsiness. The objective signs may include, besides rapid pulse, hypertension and weakening of the heart sounds, a tendency to cyanosis and jaundice.

**Pregnancy Transverse Myelitis.**—In Gueissaz' case the total paralysis of the legs developed suddenly the seventh month of the woman's twelfth pregnancy, and subsided after cesarean section. She was able to walk alone in seven weeks. In five analogous cases of pregnancy transverse myelitis with a sudden onset, four of the women died. In seven with a gradual onset, all survived. One of the women had recurrence at three pregnancies. The paralysis developed in the second to the eighth month. The youngest patient was 21. Necropsy in this case failed to show even a microscopic lesion of the spinal cord.

## Lyon Chirurgical

**22:** 393-456 (June) 1925

Myomas with Pulmonary Tuberculosis. J. F. Martin et al.—p. 293.
Indications for Treatment of Varices in Adults. Oudard et al.—p. 299.
Uremia from Surgical Standpoint. M. Arnaud.—p. 319.
Certain Abnormal Conditions in Arteries. R. Leriche.—p. 326.
Cancer in Stump of Uterus. Gignoux and Pollosson.—p. 330.
The Future of Surgery. R. Leriche.—p. 339.

## Presse Médicale, Paris

**33:** 961-976 (July 18) 1925

*Splenectomy for Hemorrhagic Purpura. A. Chauffard and P. Duval.—p. 961.

**Chronic Hemorrhagic Purpura Cured by Splenectomy.**—The case observed by Chauffard and Duval, in a young girl, was characterized by a long bleeding time, variable from twenty or thirty minutes to two hours, and by a decrease of the blood platelets. Examination of the patient ten weeks after the spleen had been removed showed apparently complete clinical recovery, and a normal condition of the blood. The sclerotic spleen, which destroys the red corpuscles in hemolytic jaundice, may affect the platelets in hemorrhagic purpura.

**33:** 977-992 (July 22) 1925

*Local Treatment in Puerperal Septicemia. Lévy-Solal and Simard.—p. 977.
"Vernes' and the Wassermann Tests for Syphilis." A. Vernes.—p. 979.

**Specific Dressings Applied Locally in Puerperal Infection.**—Lévy-Solal and Simard used filtered cultures of streptococci, from severe cases of puerperal infection, the strains frequently renewed. Gauze impregnated with the antivirus was introduced to pack the uterine cavity and the vaginal culdesacs. The dressings were changed from three to five times, each twenty-four hours. No less than three dressings were applied, even when the fever subsided after the first. This treatment, employed in the early stage of puerperal septicemia, was followed by recovery in all the eight cases. No infection occurred in the nineteen cases with prolonged labor and fever, the specific dressings being used as a prophylactic measure. A rapid recovery was also noted in three cases of septicemia, of six and eight days' duration, following an artificial delivery. The dressings appeared to be harmless.

**33:** 993-1008 (July 25) 1925

*Relapses and Recurrences of Tetanus. Bérard and Lumière.—p. 993.
Natural and Acquired Reactivity. C. Zoeller.—p. 994.
Antianaphylactic Action of Mineral Waters. V. Aubertot.—p. 996.

**Relapses and Recurrences in Tetanus.**—Bérard and Lumière cite Péhu and Mantelin's case in which there was recurrence of tetanus, after a five months' interval, in a child, aged 4. On the basis of their 140 personal observations in the war, they assert that relapses or recurrences of tetanus, occurring after a prolonged interval, should be considered as reinfection from a new invasion of the bacillus, or as liberation of bacterial spores which had penetrated into the organism with some foreign body and had retained their virulence for weeks or months. The immunity induced by the specific antiserum becomes rapidly attenuated. The preventive injections do not delay the phenomena of tetanus but merely seem to reduce their gravity. They reiterate that an attack of tetanus does not confer any active or passive immunity to further attacks, and emphasize anew the importance of giving the antiserum again before any secondary operation later.

## Revue Française de Pédiatrie, Paris

**1:** 1-124 (June) 1925

*Heat Regulation in Infants. Ribadeau-Dumas and Fouet.—p. 3.
*Etiology of Tuberculosis in Children. Debré and Cordey.—p. 16.
Tetany in Children. E. Lesné et al.—p. 40.
Physiology and Pathology of Infant Feeding. P. Rohmer.—p. 73.

**Abnormal Temperature in the New-Born.**—Ribadeau-Dumas and Fouet describe the case of an infant, aged 3 weeks, who had constantly presented an irregular temperature, characterized by sudden rises and falls. The extreme range was from 28 to 42 C. (82.4 to 107.6 F.), the abrupt fluctuations recurring during the two months it lived. There was nothing to indicate infection. Necropsy showed softening of the cerebral cortex in both hemispheres, with hydrocephalus. They assume that certain fevers of unknown origin in the new-born and infants may be traceable to clinically undetected lesions of the central nervous system, caused by some birth injury or unrecognized infection.

**Rôle of Contagion in Etiology of Tuberculosis in Children.**—Debré and Cordey's research on 230 children, from 5 to 15 years old, with bone, joint or pulmonary tuberculosis, revealed that in 91.2 per cent. of the cases the infection was due to known contagion. Investigation of the conditions in regard to twenty-five of the same age, with different nontuberculous

affections, as well as of fifty with a negative skin reaction, demonstrated that 80 per cent. of these children had not been in contact with tuberculous persons. Only 20 per cent. might have been exposed to a suspected or minimal contagion. Children with a positive skin reaction, exposed to prolonged contact with a tuberculous person, may develop a latent tuberculosis. The danger from contact with a tuberculous subject is greater the younger the child, as its allergy is weak.

## Revue Médicale de la Suisse Romande, Geneva

**45**: 457-544 (June 25) 1925. Dedicated to M. Askanazy

*Serial Microscopic Control of Cancers. G. Roussy et al.—p. 458.
Classification and Treatment of Diseased Lymph Glands. H. Fox.—p. 463.
*Abdominal Pneumatosis. P. Masson.—p. 470.
Dermoid and Teratoid Ovarian Cysts. Marques dos Santos.—p. 484.
Paratyphoid in Switzerland. W. Silberschmidt.—p. 489.
Ascending Inflammation and Sclerosis of Organs. M. Roch.—p. 496.
Two-Stage Prostatectomy. C. Perrier.—p. 500.
An Osteoid Sarcoma of the Scapula. Montant and Gloor.—p. 502.
Relations Between the Destructive and the Fibroid Forms of Tuberculosis. F. Cardis.—p. 506.
Nature and Treatment of Genu Valgum and Genu Varum. A. Jentzer.—p. 512.
Biology of Tubercle Bacilli in Vivo Versus in Vitro. Grasset.—p. 520.
Appendix Packed with Colloid Grains. E. C. Megevand.—p. 525.
Paradoxic Embolism. J. J. Mozer.—p. 532.
Cultivation of Tissues Outside the Organism. A. Grumbach.—p. 537.

**Serial Histologic Examination of Irradiated Cancers.**—Roussy and his collaborators make a practice of microscopic examination of a scrap of the tumor before and at fifteen to twenty day intervals after roentgen-ray treatment, as also at six to eight day intervals after radium treatment. By this serial biopsy the modifications in the epitheliomatous elements and in the surrounding connective tissue stroma can be estimated for the prognosis and as guide to such treatment in general. Two cases of uterine cancer are described in detail to show the difference in the findings at the serial biopsies as one woman recovered completely while the malignant disease progressed in the other. The intervals specified are selected to show the maximum effect of the rays.

**Gas Cysts in the Abdomen.**—Masson suggests the theory that prolonged resorption of lactic or other acid by the bowel mucosa, and penetration of the resorbed gas into the lacteals, with release of carbon dioxid, would explain the formation of gas cysts in the lymphatics. When the circulation in the intestinal lymphatic involved becomes arrested, spontaneously or from the changes induced by a laparotomy, the gas disappears and the cyst collapses.

## Schweizerische medizinische Wochenschrift, Basel

**55**: 661-680 (July 16) 1925

Silver Therapy. K. von Neergaard.—p. 661.
The Interstitial Cells of the Testis. R. Schweizer.—p. 665.
*Iodized Salt and Milk Secretion. O. Stiner.—p. 670.
Case of Tertiary Syphilis of the Thyroid. Groedel and Hubert.—p. 674.

**Iodized Salt and Milk Secretion.**—Cows which had been fed with iodized sodium chlorid instead of with plain sodium chlorid secreted more milk and of better quality (more fat and more ash) than the control cows. The output of iodin in their milk was not increased. The iodin in plants is better utilized by the cow than the artificially administered iodin which latter is to a large proportion excreted in the feces and urine.

## Archivio Italiano di Chirurgia, Bologna

**11**: 333-444 (May) 1925

*Cholecysto-Ureteroneostomy. E. B. Lay.—p. 333.
Inflammatory Submaxillary Process. G. Carisi.—p. 360.
*Tuberculous Process in Hernial Sac. L. Pizzagalli.—p. 373.
*Paratyphoid Osteitis. G. Ceccarelli.—p. 395.
Simplified Technic for Blood Transfusion. A. Biancheri.—p. 413.
*Relation Between Tuberculosis and Local Lesions. Polettini.—p. 431.

**Bladder Made from Gallbladder.**—Bussa Lay implanted the right ureter in the gallbladder for partial diversion of the urine in five monkeys. All survived, free from any apparent disturbances of any kind. Three to five months later he removed the left kidney, but the animals soon died in uremic coma.

**Tuberculosis in the Hernial Sac.**—Pizzagalli describes two cases, both in young men. Each had tuberculous glands or pleuritis.

**Subacute Paratyphoid Osteitis of the Femur.**—The assumed coxitis developed suddenly in the boy after the family passed through a brief febrile disease diagnosed as influenza. Exploratory puncture in the circumscribed bone focus, near the trochanter, disclosed virulent paratyphoid B bacilli. The roentgenograms suggested either a sarcoma, except that the cavity showed uniformly clear with sharp outlines, a cyst, or a focus of osteomyelitis. Ceccarelli aspirated 20 c.c. of blood and pus through a lumbar-puncture needle, and the process promptly retrogressed and healed. The femur seemed to be quite normal eight months later. Light traction had been applied to the thigh after the evacuation.

**Relations Between Tuberculosis and Local Lesions.**—Among the results of Polettini's experiments was the constant development of metastases in the lungs of rabbits, from tuberculous processes in the kidneys, when a little plaster of Paris was injected into the trachea. On the other hand, lesions induced in joints or elsewhere never were followed by metastasis in them from tuberculous processes in the lungs.

## Pediatria, Naples

**33**: 681-736 (July 1) 1925

*Nervous Complications of Varicella. P. Galli.—p. 681.
*Autohemotherapy in Eczema. A. Mazzeo.—p. 700.
Uric Acid and Creatinin in Children's Blood. G. de Toni.—p. 707.
Has Yohimbin Galactogogue Action? G. Cartia.—p. 715.
*Scurvy. C. Pestalozza.—p. 718.
Child with Congenital Ophthalmoplegia and Multiple Dystrophia. V. Tripputi.—p. 722.

**Nervous Complications of Varicella.**—Galli has encountered two cases of acute cerebellar ataxia in the course of chickenpox. The two children, aged 2 and 5, were brother and sister, previously healthy, and the severe nervous symptoms subsided in two weeks without leaving any appreciable traces. He reviews the field of the rare manifestations in the nervous system of toxic action from the varicella virus.

**Autohemotherapy in Eczema of the Exudative Diathesis.**—Mazzeo reports nine of fifteen young infants completely cured of their extensive and itching seborrheic eczema, and two notably improved. He generally injected 2 c.c. of own blood intramuscularly. The pruritus usually disappeared after the first injection, and the eczema began to dry up after the third. The blood was reinjected at once, without any manipulations, and the procedure was repeated on alternate days. All other treatment was suspended.

**Hematuria in Scurvy.**—The child had been breast fed until 6 months old. Signs of scurvy developed at the ninth month, and at the tenth month there was profuse hematuria. None of the clinicians consulted had thought of scurvy as the possible explanation of the symptoms, but the diagnosis was unmistakable as all the symptoms subsided at once on a change to a vitamin-rich diet.

## Pediatria Archivio, Naples

**1**: 1-124, 1925

*The Etiology of Scarlet Fever. Di Cristina and Caronia.—p. 3.
Plurality of the Antigens in the Wassermann Test in Congenital Syphilis. D. Caffarena.—p. 78.
Variability of Strains of Typhoid Bacilli. M. Gerbasi.—p. 101.

**Etiology of Scarlet Fever.**—In this profusely illustrated monograph, Di Cristina and Caronia present their full evidence as to the filtrable virus to which they ascribe a notable influence in the etiology of scarlet fever. They regard the streptococcus as important only as all associated microorganisms are important, or as influencing the course of the disease. Eight pages of recent international bibliography are appended.

## Policlinico, Rome

**32**: 899-932 (June 29) 1925

*Taste and Smell During Neo-Arsphenamin Treatment. G. Donato.—p. 899.
Improved Suture Technic. V. Ghiron.—p. 906.
"Aplasia of Hepatic Vein." P. Basti.—p. 907.

**Taste and Smell Anomalies During Neo-Arsphenamin Treatment.**—Donato states that in his investigation of 317 patients taking arsenical treatments, nearly all testified to a taste or smell of ether or garlic. It was transient usually,

and his experience indicates that when these sensations persist, it is a sign warning of intolerance of the drug. It seems to be impossible to modify this paresthesia with the usual drugs; epinephrin alone reduced the intensity somewhat.

**32:** 1005-1039 (July 20) 1925

*Closed Plaster Treatment of Open Tuberculous Joints. M. Benci.—p. 1005.
Iodin Treatment of Tuberculous Peritonitis. E. Sartorelli.—p. 1009.
Present Status of Bismuth in Treatment of Syphilis. Giorgi.—p. 1012.

**The Solieri Method of Treating Tuberculous Joints.**—Benci describes five typical cases which he thinks testify to the advantages of Solieri's method in certain cases of tuberculous bone and joint processes with fistulas. After clearing out and disinfecting the fistula, a closed plaster case is applied, closing in the fistulas completely. The cast is not changed except as it becomes too soft. He says that the process heals more rapidly than under other technics. There can be no contamination from without, and the walled-in pus may serve as an autoserotherapy. The only drawback, he says, may be the odor of the stagnating pus. Eczema did not develop in his cases. At most the skin was red.

**32:** 317-364 (July 1) 1925. Medical Section

Mechanism of Insulin Hypoglycemia. L. Condorelli.—p. 317.
*Action of Thyroid Extract on Fetus. G. Pighini.—p. 334.
The Blood During Irradiation of Thyroid and Pituitary. Meo-Colombo.—p. 337.
Creatinin and Uric Acid in Urine During Fatigue. Palmieri.—p. 356.

**Action of Thyroid Extract on the Fetus.**—Pighini relates that a toxic action was evident in rabbits, guinea-pigs and dogs, the more intense the younger the fetus. Death of the fetus is followed by its expulsion from the uterus. The heart and pancreas become enlarged in experimental hyperthyroidism.

**32:** 269-320 (June 15) 1925. Surgical Section

*The Gastric Chemistry After Gastro-Enterostomy. M. Ascoli.—p. 269.
*The Hemoclastic Crisis in Surgery. O. Cignozzi.—p. 282.
Torsion of the Spermatic Cord. A. Odasso.—p. 290.
Muscle Transplants. G. Petta.—p. 303.

**The Chemistry of the Stomach After Gastro-Enterostomy.**—Ascoli tabulates the findings in twenty-seven cases. He was impressed with the lack of uniformity, even in the individual cases.

**The Hemoclastic Crisis in Surgery.**—Cignozzi warns that in certain rare cases extravasation of blood induces direct hemolysis. By detecting this individual tendency to an autohematogenous hemoclastic crisis, the surgeon is aided in both diagnosis and prognosis. By strict exclusion of accumulation of blood and by injection of substances to promote coagulation, the tendency can be combated.

**32:** 321-372 (July 15) 1925. Surgical Section

Mucoid Ovarian Cysts and Complications. O. Cignozzi.—p. 321.
Tendon Sheath as Factor in Healing. Dominici.—p. 361.
*Simple Ulcer in Small Intestine. F. Pesce.—p. 367.

**Simple Ulcer of the Small Intestine.**—Pesce adds two new cases to the twenty-two he has found on record of a simple ulcer below the duodenum or gastro-enterostomy loop. In most of the cases the perforation had not been preceded by appreciable symptoms. In twenty of the total cases the ulcer was solitary. In nineteen cases it was in the ileum.

## Riforma Medica, Naples

**41:** 481-504 (May 25) 1925

*Suppurative Arthritis. D. Taddei.—p. 481.
Meat in Diet of Diabetics. C. Farmachidis.—p. 484.
Three Cases of Hemimelia. P. Alonzo.—p. 487.
Acute Necrosis of the Pancreas After Contusion. Arrigoni and Fucci.—p. 489.
*The Hypoglycemia Syndrome. M. Cayrel.—p. 493.

**Suppurative Arthritis.**—Taddei describes some cases to illustrate the evil effects of trying to get along without resection in these cases. Early primary resection, aseptic medication and early discarding of drainage form the logical and the most economical treatment.

**The Hypoglycemia Syndrome.**—Cayrel recalls that insulin has revealed this previously unrecognized clinical syndrome. It may be encountered in prolonged fatigue and in intoxication; in nervous affections and in dyspepsia, as well as after insulin treatment. He summarizes the work of Seale Harris and other Americans, and comments on the enormous complexity of the new problems connected with hypoglycemia.

**41:** 577-600 (June 22) 1925

Sedimentation in Pulmonary Tuberculosis. Olivero.—p. 577.
Some Pigmentation Anomalies. S. Vacchelli.—p. 578.
Ponndorf's Vaccination in Pulmonary Tuberculosis. Marcovich.—p. 580.
*Biochemical Import of Freckles. B. Coglievina.—p. 581.
Present Conception of the Pancreas Theory of Diabetes. Laura.—p. 582.

**Biologic Importance of Freckles.**—Coglievina's research showed a surprising coincidence between the location of the freckles and of the points representing the thermic sense in the skin. The freckle may be a biologic defensive process to protect the nerve terminal, at a specially vulnerable point, by an extra pigmentation.

## Revista Española de Medicina y Cirugía, Barcelona

**8:** 311-374 (June) 1925

The Fight Against Tuberculosis. F. Soler Garde.—p. 311.
*Treatment of Frontal Sinusitis. Ricardo Botey.—p. 322.
Complications of Attempts to Induce Abortion. Proubasta.—p. 330.
Vaccination Against Diphtheria. P. Farreras.—p. 334.

**Frontal Sinusitis.**—Botey remarks that in acute cases treatment should be restricted to sedatives and combating the inflammation. In extreme cases, intervention should be merely opening a frontal or orbital abscess and catheterizing the frontal sinus. No operation should be attempted on the frontal sinus until after roentgen-ray examination. Chronic frontal sinusitis should always be treated surgically, removing the middle turbinate as the first step, with all the ethmoidal cells. Two or three weeks later the nasal frontal passage should be dilated and the cavity effectually rinsed out. There is no perfect mode of access to the frontal sinus; all expose to complications and recurrence. His own technic clears out the ethmoidal cells, opens the sinus in the inner inferior portion of its anterior wall, and allows complete evacuation, without disfigurement. The extranasal route should not be used until after failure of the nasal.

## Revista Española de Obstet. y Ginecología, Madrid

**10:** 193-240 (May) 1925

*Uremia with Convulsions During Pregnancy. P. Nubiola.—p. 193.
*Syphilis in Parturients. V. Marqués Bertrán and J. Muñoz Arbat.—p. 201.

**Uremia with Convulsions in Pregnancy.**—Nubiola discusses the points for differential diagnosis between uremia and eclampsia in pregnant women. Eclampsia is more probable when the convulsions occur in the last three months of the pregnancy or during or following delivery, with a history of other symptoms of toxicosis noted before the convulsions, oliguria; retention of nitrogen; hyperchloriduria with albuminuria but no tube casts or kidney elements in the urine, and hypertension. There have been a large number of cases of eclampsia this year at Barcelona. In one case there were twelve attacks of convulsions in the third day of the physiologic puerperium, with absolutely normal findings until just before the first attack. In another case of convulsions during the fifth month, he diagnosed uremia with convulsions.

**Syphilis in Parturients.**—In the 303 parturients at the Barcelona Maternity syphilis was found in sixteen. Among the syphilitic women, 23 per cent. had had abortions before this. The fetal mortality in the untreated was 83 per cent. In all the cases of congenital syphilis in the new-born, the mothers were invariably syphilitic, but 46 per cent. were unaware of their infection. The most constant visible sign of syphilitic infection of the placenta is the discoloration. The Wassermann test was negative in 8 per cent. of the certainly syphilitic women.

## Revista Esp. de Urología y Dermatología, Madrid

**27:** 169-224 (April) 1925

*Prostatic Obstruction. C. Sala Parés and M. Pañella Casas.—p. 169.
Ultraviolet Rays in Treatment of Alopecia. J. M. de Bárcena Verdú.—p. 179.

**Roentgen-Ray Treatment of Hypertrophied Prostate.**—Sala Parés and Pañella Casas state on the basis of fifteen cases that the retrogression of the hypertrophy can be confidently

expected under deep roentgen-ray treatment in cases of pure adenoma. The benefit is most rapid and pronounced the more recent the onset. They use two suprapubic fields, one at the perineum and two at the coccyx. If this treatment fails, it does not interfere with application of other measures.

## Revista Mexicana de Biología, Mexico City

**5:** 313-358 (May) 1925

Improved Technic for Counting Bacteria. F. Medina.—p. 313.
*Pathologic Anatomy of Scorpion Poisoning. F. Ocaranza.—p. 321.
Physiologic Changes in the Blood During the Menstrual Cycle. E. Ramirez.—p. 332.
Three Mexican Species of Acarideans. M. Sellnick.—p. 346.

**Scorpion Poisoning.**—Ocaranza reproduces eleven photomicrographs of the findings in the guinea-pig and the rat after a scorpion sting. The kidneys and liver seem to suffer most. At some points the glomeruli seemed entirely destroyed.

## Revista de la Soc. Arg. de Urol., Buenos Aires

**1:** 27-45 (May) 1925

*Cystoscopic Signs of Renal Tuberculosis. L. E. Pagliere.—p. 27.
*Stenosis of the Bulbar Urethra. J. Salleras.—p. 30.
Case of Enormous Congenital Dilatation of the Urinary Passages. Astraldi and Tobias.—p. 38.
Case of Bifurcation of Right Ureter. Quintana et al.—p. 42.

**Cystoscopic Signs of Renal Tuberculosis.**—Pagliere states that in old renal tuberculosis the mouth of the ureter on that side follows the movement of the diaphragm in deep breathing. This sign is important, both in diagnosis and in locating the tuberculous process. The mouth of the ureter on this side may be higher than that of the sound side. This sign may be lacking when the tuberculosis of the kidney is of recent date, and the ureter is not inflamed, or when the kidney is much enlarged and has sagged. He has noted this sign with tuberculous processes in either the right or the left kidney.

**Stenosis of the Bulbar Urethra.**—Salleras sutures at once after operating on an impermeable stenosis of the bulbar urethra, except when there are acute periurethral infectious processes or in acute exacerbations of chronic disease. If necessary, he concludes with a plastic operation. In two cases of old gonorrhea, he sutured the perineum after external urethrotomy, leaving a drain for forty-eight hours. In the urethra, an olive-tipped bougie was left as a model for repair. Among thirty patients treated with perineorrhaphy, only one developed a fistula.

## Semana Médica, Buenos Aires

**1:** 1257-1312 (June 11) 1925

Experimental Intravenous Use of Colloidal Bismuth. D'Amato.—p. 1257.
Colloidal Metals in Acute Pulmonary Processes. A. F. Camauer.—p. 1265.
The Rheumatismal Origin of Cortical Pleuritis. J. R. Goyena.—p. 1267.
Pneumonia and Appendicitis in Children. F. Pozzo.—p. 1267.
*Hemorrhagic Polyps of the Verumontanum. J. Salleras.—p. 1269.
Posterior Urethroscopy. Ubaldo Isnardi.—p. 1270.
Physical Examination of School Children. T. A. Tonina.—p. 1271.
Spastic Retention of the Placenta. Bazzano.—p. 1286.

**Electrocoagulation for Bleeding Polyps of the Verumontanum.**—Salleras reports two cases in which the hemorrhages seemed to be connected with sexual abuse, without preceding urethritis. The electrocoagulation gave excellent results. Only one or two sittings were required. There has been no recurrence in either case.

## Siglo Médico, Madrid

**75:** 525-548 (May 23) 1925

*Some Eugenic Problems. E. Fernández Sanz.—p. 525.
Malarial Anemia in a Hemophiliac. G. R. Gonzalo.—p. 530.
Otitic Abscess in the Brain. Carrasco.—p. 531.
Recovery from Tetanus Under Large Doses of Antiserum. E. Segoviano.—p. 532.

**Eugenics and the Sexual Problem.**—Fernández Sanz presents arguments to sustain his contention that the progress of mankind and of eugenics demands strict demarcation between the male and female types, and the evolution of each to maintain and accentuate the differences between the sexes. Everything should be avoided, he says, that tends to reduce or confuse these differences.

## Archiv für Verdauungskrankheiten, Berlin

**35:** 115-266 (June) 1925

*The $p_H$ of the Stomach Contents with Duodenal Ulcer. Kaufthеil and Porges.—p. 115.
Postoperative Gastrocolonic Fistula. L. Nelken.—p. 143.
Medicinal Treatment of Apepsia. Winogradow et al.—p. 151.
*Pepsin Inhibiting by the Blood Serum. Hirsch-Mamroth.—p. 174.
Endocrine Glands and Intestinal Tract. F. Boenheim.—p. 186. Contd.
Chronic Gastritis. R. Korbsch.—p. 210.
*Influence of Tobacco on the Stomach. F. Lickint.—p. 230.
Examination of Stomach Contents. Schwarz and Seldina.—p. 248.

**The $p_H$ in the Stomach Contents.**—The true acidity of the stomach contents can be determined by titration for free hydrochloric acid and the total acidity. Kaufthеil and Porges found that in duodenal ulcers the true acidity is considerably above the normal value. In gastric ulcers they found normal or subnormal values.

**A Pepsin-Inhibiting Action of the Blood Serum.**—Hirsch-Mamroth examined twenty-one patients with gastric or duodenal ulcers for the antipeptic value of their blood serum. This action was not uniformly weaker in these patients than in the fifty control cases, but it was found that in all cases of radical resection of the ulcer the antipeptic value increased. A new and simple method for the test is described in the paper.

**The Influence of Tobacco on the Stomach.**—A careful analysis of the literature concerning clinical and experimental observations and his own experimental work on the influence of tobacco on the ferment activity of digestive secretions, lead Lickint to the following conclusions: Nicotin decreases the action of pepsin and of rennet. Potassium sulphocyanate, found in excess in the saliva of smokers, has an inhibiting effect on protein digestion. In chronic smokers, the peristalsis is first increased, later decreased. Lickint believes that tobacco may play an etiologic rôle in neuroses of the stomach, in disturbances of its secretory function, in gastritis, and even in ulcer and cancer.

## Beiträge zur klinischen Chirurgie, Berlin

**133:** 533-688, 1925

*The Complete Removal of the Thyroid. P. Sudeck.—p. 533.
*Surgical Dieases of the Pancreas. A. Schlegel.—p. 562.
*Blood Supply After Strumectomy. H. Geiger.—p. 583.
*Healing of Veins. O. Pollwein.—p. 607.
Fractures of the Pelvis. H. Günzler.—p. 617.
*Cancers of the Sinuses. W. Klestadt and H. Martenstein.—p. 626.
A Cavernous Hemangioma of the Small Intestine. F. Landois.—p. 685.

**Complete Removal of the Thyroid.**—Sudeck discusses the reasons for the complete removal of the thyroid in cases of cancer and in selected cases of exophthalmic goiter, when it is imperative to prevent any further toxic effect on the heart, and when myxedematous symptoms are present. In cancer, it is his method of choice. He believes that tetany can always be prevented. Thyroid preparations by the mouth are always sufficient to prevent symptoms of thyroid deficiency.

**Surgical Diseases of the Pancreas.**—Schlegel divides these diseases in three groups: first, the cases of acute necrosis which is caused either by bile entering into the pancreatic duct, owing to stones in the papilla, for example, and activating the pancreatic ferment, which leads to a digestion of the pancreas; or by hemorrhages due to arteriosclerotic processes or stasis (pressure by a tuberculous lymph node in one case), or to septic diseases. The second group comprises cases in which no parenchymatous changes are found, but necrosis of peripancreatic fat tissue; Schlegel advocates the name pancreatosis for this group. Another type of cases belongs to this group, too; here one finds an extremely hard, tumor-like pancreas; the patient complains of colicky pain and has usually a normal temperature. The pancreas does not show any histologic changes. Inflammatory processes of the pancreas, pancreatitis, make up the third group. Schlegel emphasizes the intimate relations between the gallbladder and the pancreas.

**The Blood Supply in the Thyroid After Goiter Operations.**—Geiger has found that after ligation of the four arteries, collaterals are formed by the vessels in front and back of the thyroid. After ligation and resection, the retroglandular arteries predominantly take care of the blood supply.

**Healing of Sutured Veins.**—Pollwein concludes from his experimental work on dogs that the histologic processes in the healing of wounds in veins are essentially the same as those observed in arteries.

**Treatment of Cancers of the Sinuses.**—Klestadt and Martenstein report fifty-eight cases; forty-nine of the patients had carcinoma, nine sarcoma of the accessory nasal sinuses. The method of treatment was the most radical removal of the tumor, avoiding unnecessary mutilations; radical operation on all the sinuses, which were diseased in every case; treatment with roentgen ray or radium or with a combination of both. Of the forty-eight patients discharged after the operation, four have not developed any recurrence or metastasis during a period of five years. The authors emphasize the importance of the postoperative ray treatment, but they do not believe that the latter can take the place of a radical operation.

## Deutsches Archiv für klinische Medizin, Leipzig

**147:** 257-380 (June) 1925

Digitalis and Strophanthus. E. Veiel.—p. 257.
*Bile Acids in the Urine. E. C. Meyer.—p. 274. Idem. Id.—p. 283.
Teleangiectasia Hereditaria Haemorrhagica. A. Arrak.—p. 287.
Pulsation of Capillaries. G. Hubert.—p. 292.
Stenosis of the Tricuspid Valve. F. Hiller.—p. 302.
Partial Gigantism. F. Curtius.—p. 310.
Stenosis of the Mitral Valve. K. Eggert.—p. 320.
Cardiography. K. Eggert.—p. 329.
Blood Pressure. W. H. Jansen.—p. 339.
Percussion with Edge of Fingertip. T. Hausmann.—p. 351.

**A Method for the Determination of Bile Acids in the Urine.**—All tests for biliary acids in the urine, which are based on the decrease of the surface tension only, do not take into account that other substances with the same physico-chemical behavior may be present in the urine. Meyer has devised, therefore, a new method as follows: to one portion of urine (6 c.c.) one drop of potassium hydrate is added to render it slightly alkaline. A second portion (6 c.c.) of urine is made acid to Congo paper with concentrated hydrochloric acid. The number of drops in both portions is determined in a stalagmometer containing 37.3 drops of water. Sodium chlorid (1.5 gm.) is added to both portions of urine, and the number of drops determined again. If the increase in the number of drops after the addition of sodium chlorid in the alkaline urine is less than 4.5 drops, as compared with the acid urine, the urine contains less than 4 mg. of biliary acids per hundred cubic centimeters. If the increase is 4.5-6 drops, 4 mg.; if it is 8-13 drops, 11-20 mg. of biliary acids are present in 100 c.c. of urine. The urine must be free of proteins before testing for biliary acids.

## Deutsche medizinische Wochenschrift, Leipzig

**51:** 1181-1222 (July 17) 1925

*Vaccination Against Tuberculosis. H. Selter.—p. 1181.
Present Treatment of Laryngeal Tuberculosis. Stenger.—p. 1185.
Stimulating Action of Rays. J. Seide.—p. 1186.
*Metal Salts in Therapeutics. L. E. Walbum.—p. 1188.
Manganese in Treatment of Tuberculosis. O. Helms.—p. 1189.
Eruptions After Mercurous Chlorid. Korach.—p. 1190.
Bacteruria and Sequelae. K. Köster.—p. 1191.
*Operative Invagination of the Appendix. P. Schaefer.—p. 1192.
Methylene Blue in Malaria. R. D. Loewenberg.—p. 1194.
Errors in Hemolytic Experiments Using Citrated Blood. Goebel.—p. 1195.
Ileus-Like Symptoms in Influenza. J. Preuss.—p. 1197.
Condylomata Acuminata in Diabetes. W. Ernst.—p. 1198.
Minimal Doses of Insulin in Diabetes. K. Felsch.—p. 1198.
"Chronic Suprarenal Treatment." R. Griesbach.—p. 1199.
Contracture of the Thumb in Young Children. W. Göhler.—p. 1200.
Dangers of Artificial Dilatation of the Bladder. S. Levy.—p. 1201.
Cesarean Section; Third Stage; Puerperal Fever. Geppert.—p. 1202.
The Spirit of Medicine. T. Mann.—p. 1205.
Homeopathy. E. Müller.—p. 1206. Cont'd.

**An Attempt at Vaccination of Man Against Tuberculosis.**—Selter is convinced that immunity against tuberculosis is not possible without the presence of tuberculous tissue and tuberculin allergy. He believes, therefore, that Calmette's recent vaccination by the oral administration of avirulent tubercle bacilli is not promising, and is lacking in experimental foundations. Selter has immunized guinea-pigs and calves by producing a latent tuberculous infection. He tried to apply these experiences to children, by injecting small amounts of bacilli (12-10,000), of low virulence, subcutaneously, in children with negative tuberculin tests. The nine children developed larger or smaller hard nodules at the site of the injection; in some children the regional lymph glands showed slight swelling; in some a fistula developed. All the children who had received 1,000 or more bacilli developed eczema and conjunctivitis. Even in those children who developed intercurrent infectious diseases, no propagation of the tuberculous infection occurred. One child died four months after the vaccination, from influenza pneumonia. Necropsy showed that the tubercle bacilli had not spread any farther than to the regional lymph glands. The time of observation is much too short as yet to pass judgment on the efficiency of this immunization.

**Metal Salts in Therapeutics.**—Walbum has shown in previous work that minute amounts of certain chlorids stimulate antibody production, larger amounts seem to have a paralyzing effect. Manganese chlorid has been found particularly efficacious. In his animal experiments he demonstrated that these minute doses of manganese or caesium chlorid prevented death in otherwise lethal infections. His results in experimental tuberculosis are as yet incomplete; here it is especially important to find the proper dosage, because larger amounts of metal (for example, of gold) stimulate the growth of the tubercle bacilli in vivo as well as in vitro, and counteract antibody formation. So far, manganese chlorid has displayed the best effect in tuberculosis; clinical testing of this method of treatment is under way.

**Operative Invagination of the Appendix.**—Schaefer reports the experiences in over 250 cases in which the appendix was merely invaginated instead of removed. He believes that this method, which insures complete asepsis, is sometimes preferable to appendectomy. This is the case in acute appendicitis without infiltration of the serous layer; in chronic appendicitis, if operated during an intermission, and also when it is advisable to remove the appendix without direct indications, as in gynecologic operations, etc.

## Deutsche Zeitschrift für Chirurgie, Leipzig

**191:** 145-320 (June) 1925

The Sensitiveness of the Thorax Organs. W. Felix.—p. 145.
Spontaneous Pneumothorax. K. Nather.—p. 155.
Plastics with Round Pedicle. Diban and Dienermann.—p. 164.
Semiflexion in Treatment of Fractures. Dumpert and Redwitz.—p. 170.
Para-Articular Ossification After Transverse Injury of Spinal Cord. M. Geldmacher.—p. 180.
A Fibrous Substitute for Bone Marrow. R. Nissen.—p. 197.
Parabiosis in Rats. B. Niekau and L. Duschl.—p. 221.
*Operation and Blood Pressure. D. Tolstikov.—p. 252.
*Osmotic Resistance and Sedimentation Speed in Surgical Affections. A. Wereschinski and I. Anikin.—p. 258.
Cure of Radial Paralysis by Neurolysis Nine Years After Nerve Suture. T. Fohl.—p. 293.
Sarcoma of the Prepatellar Bursa. Becker.—p. 300.
Defective Chest Musculature. L. Baum.—p. 302.
A Tuberculous Ulcer of the Stomach. E. Orsós.—p. 306.
"A Partial Water Bed." B. Pfab.—p. 315.
*Bile by the Mouth in Chronic Biliary Fistula. R. Nissen.—p. 317.

**Blood Pressure and Operation.**—Tolstikov draws the following conclusions from his clinical observations: The increase in blood pressure before an operation is due to psychologic influences; the same is true during operations under local anesthesia. The decrease of blood pressure parallels the general anesthesia. After operations in general anesthesia an increase is generally found; when the operation was performed under local anesthesia, the blood pressure shows no change afterward.

**Osmotic Resistance and Sedimentation Speed of Erythrocytes.**—Wereschinski and Anikin studied in different surgical affections the two phenomena indicated in the title. They obtained in general the same findings with the sedimentation test as most other investigators. But they conclude that the determination of the osmotic resistance of the red cells is a still more sensitive indicator for the physico-chemical changes in the blood than Fåhræus' method. The osmotic resistance is increased in all conditions with pus formation, in malignant disease, and in patients after splenectomy. A slow return to normal values after operation is a favorable sign. A convenient technic for the test is described.

**Bile by the Mouth.**—Nissen advocates feeding bile to those patients who by operative interference temporarily do not

receive their bile by natural ways. He claims that the patient finds out easily how much bile he needs every day, and that he readily gets used to its oral administration.

## Jahrbuch für Kinderheilkunde, Berlin

**109:** 127-248 (July) 1925

Atypical Rash in Measles. E. Moro and E. Müller.—p. 127.
Sun Rays and Symptoms in Rickets. W. Lasch and M. Miemietz.—p. 134.
Treating Dyspepsia with Rice Gruel. W. Catel et al.—p. 150.
*Bone Marrow and Pathogenesis of Rickets. A. v. Bosányi.—p. 164.
Etiology and Pathogenesis of Alimentary Intoxications. B. B. B. Plantenga.—p. 195.

**Pathogenesis of Rickets.**—Bosányi believes that hypofunction of the bone marrow is the primary cause of rickets. The spleen has, to a lesser degree, a similar function as the bone marrow as far as the pathogenesis of rickets is concerned.

## Medizinische Klinik, Berlin

**21:** 1033-1070 (July 10) 1925

The Prescription of Digitalis Leaves. W. Wiechowski.—p. 1033.
Syphilis and Gonorrhea in Obstetrics. Conrad.—p. 1038. Conc'n., p. 1075.
*The Adenoid Tissue. A. Kohn.—p. 1041.
Krogh Apparatus in Treatment of Asthma. Pollitzer and Stolz.—p. 1043.
Hypertrophic Gingivitis. E. Beck.—p. 1043.
Erysipelas. L. Kubin.—p. 1046.
*Constitutional Familial Hypertension. R. F. Weiss.—p. 1049.
Swelling of the Thyroid in School Children. C. Lämel.—p. 1051.
Hemolysins and Complement in the Spinal Fluid. F. T. Münzer.—p. 1052.
Lipoids in Therapeutics. II. J. Magat et al.—p. 1054.
Recent Progress in Practical Surgery. Kroll.—p. 1058.

**The Adenoid Tissue.**—Kohn suggests to name the so-called adenoid tissue "lymphoreticular tissue." It comprises (1) complete and independent organs, such as the lymph glands and spleen; (2) subepithelial nodules, such as Peyer's patches, tonsils, etc., and (3) diffuse lymphoreticular deposits (*Einlagerungen*).

**Essential Hypertension.**—Weiss believes that essential hypertension is a constitutional disease, with the tendency to occur frequently in the same family. Its heredity seems to follow the mendelian laws, and it is a dominant characteristic. Endocrine disturbances apparently play a significant rôle in the pathogenesis. Mild cases are known as types of hypertonic reactions.

**21:** 1071-1106 (July 17) 1925

Vitamins and Dysoxidative Carbonuria. A. Bickel.—p. 1071.
*The Pseudoleukemic Anemia of Children. R. Fischl.—p. 1077.
Gumma by Contact on the Eyelids. A. Elschnig.—p. 1079.
Pleurisy with Effusion. W. Greuel.—p. 1080.
Diphtheria and Syphilis of the Pharynx. Rosenbaum.—p. 1081.
Etiology of Sclerodermia. W. Heimann-Hatry.—p. 1082.
Early Metastasis in Occult Primary Cancer. Esau.—p. 1086.
Treatment of Singultus. W. Reichmann.—p. 1087.
The Fluoroscopic Screen "Sirius." Gottheiner.—p. 1087.
Embryotomy. F. Eberhart.—p. 1091. Cont'n.
Present Treatment of Essential Hypertension. W. Loewenstein.—p. 1093.
Recent Ophthalmologic Literature. W. Gilbert.—p. 1095.

**Anemia Pseudoleukemica Infantum.**—Fischl believes that this disease, which was first described by Jaksch as a primary anemia, is a secondary anemia, which occurs only during the first years of life, and whose most frequent cause is rickets. He observed the typical blood picture in infants who did not show the clinical symptoms of the disease but who were rachitic.

## Münchener medizinische Wochenschrift, Munich

**72:** 1141-1188 (July 10) 1925

Fifty Years of Psychiatry. O. Bumke.—p. 1141.
*Arteriosclerosis of Peripheral Vessels. L. Nielsen.—p. 1143.
*Asthenia in Experimental Ileus. H. Lange.—p. 1144.
Dangers of Iodin Treatment. K. Eimer.—p. 1147.
Present Status of Angina Ludovici. L. Frankenthal.—p. 1150.
*Light Therapy. H. Malten.—p. 1153.
Constitutional Factors in Stenosis of the Pylorus. W. Lasch.—p. 1155.
Improved Method of Percussion. J. Schwarzmann.—p. 1156.
Therapy of Cholangitis and Cholecystitis. W. Gent.—p. 1156.
Scabies in Infants. Wolf.—p. 1157.
Arsenic in Treatment of Deafness. E. Wodak.—p. 1158.
A Papilloma in the Axilla. W. Richter.—p. 1158.
An Impacted Diaphragmatic Pseudohernia. H. Koopmann.—p. 1159.
A Case of Impacted Mesenterial Hernia. Kohfahl.—p. 1160.
Deficiency of Sulphur in Food. Grumme.—p. 1161.
Volatile Tin Compounds. W. Vaubel.—p. 1161.
Serodiagnostic Studies in Syphilis. R. Müller.—p. 1162.
Bone Fractures. F. Lange.—p. 1162. Cont'd.
The Prevention of Worthless Life. H. F. Stelzner.—p. 1165.
Present Conceptions of Enzymes. O. Lange.—p. 1168.

**The Roentgen-Ray Diagnosis of Arteriosclerosis.**—Although the roentgen-ray picture does not show the incipient stage of arteriosclerosis in the peripheral vessels, it is very helpful for the demonstration of later stages. Pain of a rheumatoid or neuritic type in elderly patients is not infrequently caused by local circulatory disturbances. Nielsen has found that the characteristic roentgen-ray findings in these cases are diagnostically very significant. In very similar cases the roentgen ray is negative, because the process in the arteries has not yet resulted in the deposition of calcium salts or because the periodic ischemia is due to spastic conditions of the small arteries.

**Asthenia in Experimentally Produced Ileus.**—In rabbits with an artificial ileus, 40 cm. below the pylorus, the blood sugar increases continually and reaches values as high as 500 mg. in 100 c.c. of blood; at the same time the muscular glycogen decreases. These two processes do not run parallel, and Lange concludes that the hyperglycemia is not caused by an increased destruction of glycogen, but that the organism of animals with ileus loses very soon the ability to synthesize glucose into glycogen. At the same time the musculature decreases in lactacidogen. These animals show the signs of pronounced muscular asthenia; the electrically stimulated muscle becomes fatigued very much sooner than the normal muscle.

**Light Therapy.**—Pigmentation is the result of light and heat; the former stimulates the formation of the colorless propigment which enters the circulation. Through the action of heat it is retained in epithelial cells, and is transformed into pigment. The degree of pigmentation varies very much in constitutionally different types. In tuberculosis, poor pigmentation is a prognostically unfavorable sign (tuberculosis in red-haired persons). Light therapy stimulates—apparently through its action on the skin nerves—the activity of the skin glands. The influence on the metabolism has not found an adequate explanation as yet. In the practical application, care should be taken not to produce an erythema. Complete radiation is always preferable to local treatment, natural sunlight to any artificial procedure. The most important contraindications are acute local suppurations and all febrile conditions.

## Wiener klinische Wochenschrift, Vienna

**38:** 803-828 (July 16) 1925

*The Etiology of Renal Tuberculosis. E. Löwenstein.—p. 803.
Healed Rupture of Aorta Followed by Aneurysm. W. Laves.—p. 804.
Phenomena of Pronation. H. Hoff and P. Schilder.—p. 809.
Pain in Incipient Pulmonary Tuberculosis. I. Knotz.—p. 813.
Pain on Pressure of Eyeballs in Angina Pectoris. L. Bernstein.—p. 814.
Roentgen Rays in Gynecologic Hemorrhages. G. Schwarz.—p. 815.
An Orthopedic Department for Each Surgical Clinic. Hochenegg.—p. 816.
Dietetics for Incurable Cancer Patients. J. Weiss.—p. 819.
General Treatment in Tuberculosis. J. Sorgo. Supplement, pp. 1-16.

**Etiologic Problems in Renal Tuberculosis.**—Löwenstein has demonstrated that a severe and progressive renal tuberculosis may be caused by acid-fast bacilli which are not pathogenic for the guinea-pig, and which are morphologically and culturally atypical.

## Zeitschrift für Urologie, Leipzig

**19:** 481-560, 1925

*Surgical Treatment of Bright's Disease. H. Strauss.—p. 431.
The Invention of the Cystoscope. O. Ringleb.—p. 484.
Renal Tuberculosis and Pregnancy. Review of the Literature. S. Werboff.—p. 496.
Congenital Diverticulum of Urethra. von Adler-Rácz.—p. 554.

**Surgical Treatment of Nephritis.**—Strauss is very skeptical about the success of decapsulation in nephritic kidneys. He finds the operation advisable only in uremia with oliguria, especially if associated with renal pain, true nephritis hemorrhagica dolorosa. He has hardly ever seen any success in chronic or subacute nephritis or in nephrosis from mercuric chlorid poisoning.

## Zentralblatt für Chirurgie, Leipzig

**52:** 1585-1632 (July 18) 1925

Avoidance of Anesthetic Fumes in Operating Room. Kelling.—p. 1586.
"Bone Suture." R. Demel.—p. 1587.
*Plastic Operation for Hernias. H. Fowelin.—p. 1590.
*Tenesmus in Inoperable Cancer of the Rectum. G. Hook.—p. 1591.
*Ileus in Starvation. I. Faehrmann.—p. 1594.
Resection of 2 Meters of the Small Intestine. Flosdorf.—p. 1597.
Rupture of the Urethra in Motorcycle Concussion. Frankenthal.—p. 1598.

**Plastic Operation in Large Hernias.**—Fowelin recommends to use the hernial sac as a pad to cover the dilated inguinal ring; then to close—according to Bassini's method—the fascia, muscle, and skin over it.

**Relief of Tenesmus with Cancer of the Rectum.**—The usual procedure in inoperable rectal cancer is the formation of an artificial anus, with complete functional exclusion of the peripheral portion of the bowel. But even after this operation, patients frequently suffer from painful tenesmus due to irritation by fecal matter and pathologic secretions which are not completely voided through the artificial anus. Hook made in such cases an artificial fistula into the rectum after removal of the coccygeal vertebrae. This resulted in the immediate and complete relief of pain and tenesmus.

**Ileus in Starvation.**—Faehrmann observed two cases of subacute ileus in very emaciated women. The pathogenesis is explained by the fact that in these cases the omentum has lost all of its fat tissue and consists of scarcely more than a network of blood vessels. The exaggerated motor functioning of the bowel causes intestinal loops to slide into the openings in the omentum. The pressure of these loops on the omental vessels results in fibrous obliteration and shriveling, and subsequently in slow and progressive strangulation of the intestine.

## Zentralblatt für Gynäkologie, Leipzig

**49:** 1585-1632 (July 18) 1925

Interstitial Pregnancy. R. Zimmermann.—p. 1607.
*Salt Metabolism in the Placenta. K. von Oettingen.—p. 1614.
Hegar's Sign of Pregnancy. L. Piskacek.—p. 1622.
Anaerobic Infection, Simulating Tetanus, After Abortion. E. Völcker.—p. 1625.
Neurofibroma of Right Major Labium. S. Maczewski.—p. 1629.

**Salts in Maternal and Fetal Blood.**—Under normal conditions, the fetal blood obtained from the umbilical cord contains about 4.5 per cent. more chlorids than the simultaneously drawn maternal blood. The average phosphate content in the fetal blood is 5.33 mg., as compared to 3.51 mg. in the maternal blood; the creatinin does not show any significant differences. The fact that the umbilical cord blood has a higher concentration of crystalloids (potassium, sodium and amino-acids, too, are found in larger amounts in cord blood than in the maternal blood), leads Oettingen to believe that the exchange between the fetal and maternal circulation is not a mere osmotic process, but that the placental tissue must have some kind of active secretory function.

## Zentralblatt für innere Medizin, Leipzig

**46:** 673-688 (July 18) 1925

*Sclerosis of the Portal Vein. F. Wohlwill.—p. 673.

**Sclerosis of the Portal Vein.**—Wohlwill reports his pathologic anatomic studies on fifteen cases. He emphasizes that the frequently used term "thrombophlebitic tumor of the spleen" is incorrect, because there is no inflammatory process in the portal vein; thrombi may not be present at all and, if they are, they are secondary to the atheromatous changes. In the spleen is found an increase of fibrous tissue, and the histologic picture differs only quantitatively, if at all, from the Banti spleen. In ten cases he found iron deposits in the fibrous tissue and in the vessel walls of the spleen. This iron is not hemosiderin, but occurs in long crystals. The liver may be found normal, atrophic or cirrhotic; in some cases one finds the typical picture of Laënnec's cirrhosis.

## Časopís lékařů českých, Prague

**64:** 985-1020 (June 27) 1925

*Aseptic Necrosis of Semilunar Bones. A. Váňa.—p. 985.
Indications for Arthroplasty and Transplantation of Omentum. J. Kňazovický.—p. 992.
Curability of Tuberculous Cavities. J. Jedlička.—p. 1007. Cont'd.

**Aseptic Necrosis in Semilunar Bone.**—Váňa admits the probability of congenital anomalies as described for the hip joint by Maydl and later by Legg, Calvé and Perthes. Yet the traumatic etiology seems to be the most common in aseptic necrosis of the semilunar bone. The injury causes an inflammation in the ligaments of the bone, with subsequent compression of the blood vessels by the edema. The cartilage of the joint may also be injured directly.

## Prophylaktitcheskaia Medicina, Charkoff

**4:** 1-164 (May) 1925. Partial Index

*Agar in Immunization Procedures. Minkevitch and Zukerman.—p. 17.
Intensification of Antirabic Vaccine. S. Kotsevaloff.—p. 27.
Neo-Arsphenamin in Prophylaxis of Syphilis. L. Volpian.—p. 96.

**Agar Vehicle Enhances Action of Antigens.**—Using agar as the medium, Minkevitch and Zukerman injected subcutaneously eosin, trypan blue, potassium iodid, strychnin nitrate and tetanus toxin in mice, rabbits and frogs. It appeared that with the agar the substances were resorbed more slowly but more completely, and their elimination was continued longer. The same phenomenon was noted in passive immunization by diphtheria antitoxin and in active immunization by vaccines with the agar as the vehicle. Evidently a retarded resorption may render the immunization against reinfection more effectual and more durable. They refer further to Dochez's experiments with agar-cultures of the scarlet fever hemolytic streptococcus.

## Acta Ophthalmologica, Copenhagen

**2:** 199-310, 1924

*Glaucoma Pressure Curves. S. Hagen.—p. 199.
The Iris and Ciliary Body as Factors in Glaucoma. B. Malling.—p. 213.
Pseudoglioma. H. Thomsen.—p. 218.
Idiopathic Hemeralopia. C. Edmund.—p. 225.
Research on Adaptation. H. Frandsen.—p. 239.
*Eye Complications in Diabetes. C. L. Andersen.—p. 250.
Calf Cartilage as Support for Artificial Eye. O. Dymling.—p. 257.
Avulsion of Optic Nerve. O. Dymling.—p. 263.
Influence of Vitreous Body on Bacterial Growth. Cronstedt.—p. 267.
Theorem Relative to Catadioptric Images. H. Gertz.—p. 275.
Cephalocele of Orbit Cured by Operation. R. Aulamo.—p. 286.
Pits on the Optic Disc. J. Nielsen.—p. 291.

**Glaucoma Pressure Curves.**—Hagen analyzes sixty-two cases of simple glaucoma, five of inflammatory, and eleven of secondary glaucoma. The intra-ocular pressure was determined twice a day, which proved valuable for the early diagnosis, and as a guide when and how to operate.

**Eye Complications in Diabetes.**—Andersen examined the eyes of 292 diabetics and found only 25 per cent. with ocular affections traceable to the diabetes. In this group of eighty-two cases, cataract formed only 16 per cent., while retinal affections totaled 52.4 per cent.; opacity in the vitreous body, 8.5 per cent., and transitory refraction errors, 14.6 per cent.

## Finska Läkaresällskapets Handlingar, Helsingfors

**67:** 499-620 (June) 1925

*Metabolism and Immunity. G. von Wendt.—p. 499.
Histology of Xeroderma Pigmentosum. M. Edgren-Gylling.—p. 542.
*Tuberculosis in One Finland District. M. Savolin.—p. 556.
Chronic Appendicitis Without Acute Attacks. H. Bardy.—p. 562.

**Metabolism and Immunity.**—Von Wendt summarizes the present conceptions of the basic principles of metabolism, discussing in particular the reticulo-endothelium-lymph gland apparatus and the importance of measures to stimulate its local or general action to promote or modify the metabolism. The age-long benefit from revulsion is due to this apparatus, and he thinks greater use should be made of such measures as an adjuvant to drug treatment. He refers in particular to sanocrysin, saying that physical measures applied to the skin in the region of the focus might prepare the region for a more effectual action of the drug.

**Tuberculosis in One Finland District.**—Nearly 13,000 of the 16,000 inhabitants of the Borgå district were tested for tuberculosis, with positive findings in 2.32 per cent. but the tuberculous lesions had healed in a large proportion. The death rate from tuberculosis was 22.68 for each 10,000 inhabitants.